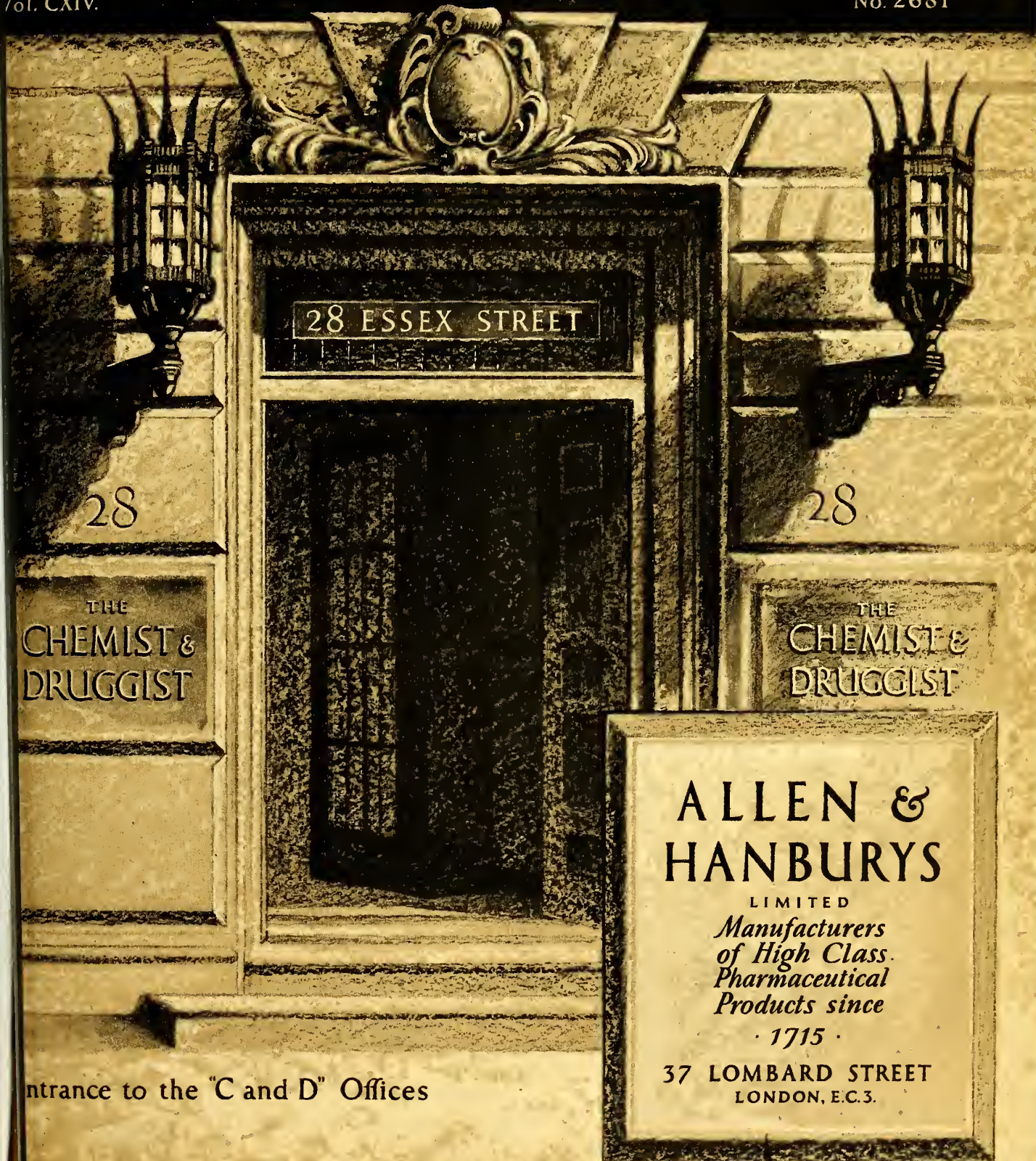


CHEMIST and DRUGGIST

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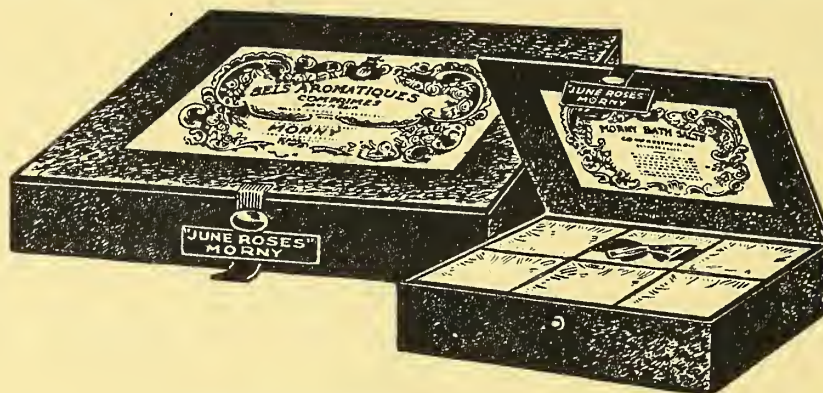
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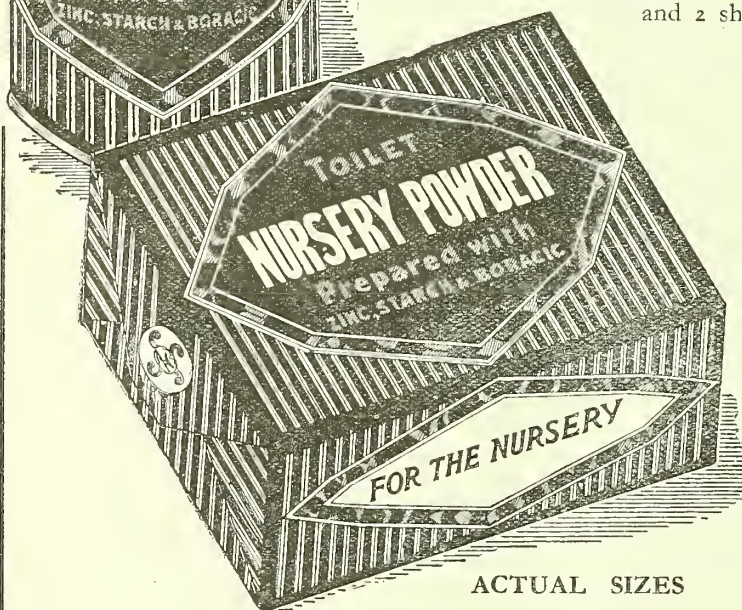


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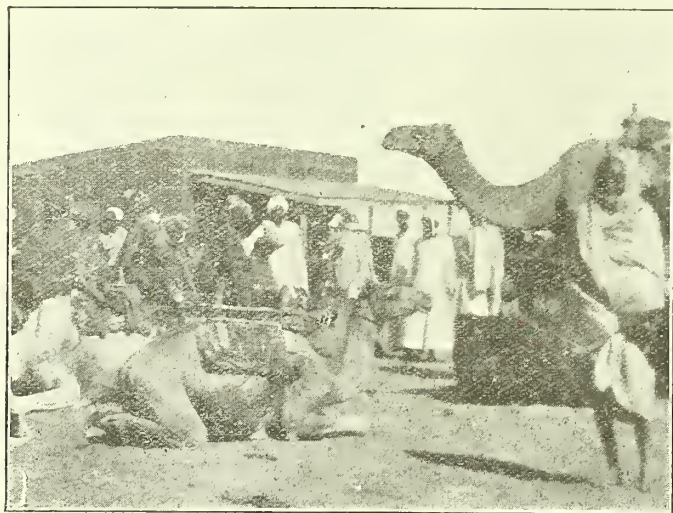
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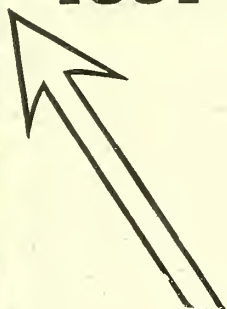
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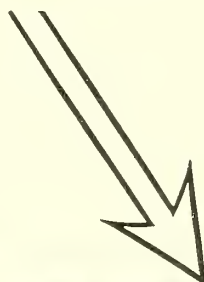
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**THEN
1881**



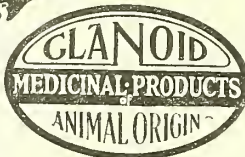
MAY, ROBERTS for half a century have maintained their policy and individuality. The ideal of the founder—to provide the best medium for distribution—has been continued by his successors. The expansion of the business is due entirely to organised effort to give a complete service to the Pharmacist.



**NOW
1931**



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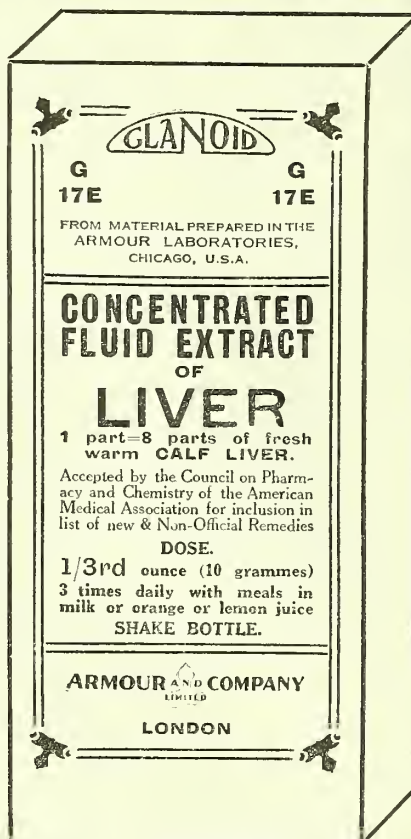


Adeps Benzoatus
 Adrenalin
 Amylopsin
 Beef Juice*
 Carminex
 Catgut*
 Cerebrinin
 Corpus Luteum*
 Diastase (Animal)
 Digestive Ferments
 Duodenin
 Enzymes*
 Galactis
 Hæmoglobin
 Insulase*
 Lactated Pepsin
 Lecithin
 Ligatures*
 Liver*
 Lymphatic
 Mammary
 Mam-Ovarian
 Mam-Placenta
 Meduphites
 Multigland*
 Myelin
 Orchitic
 Ovarian*
 Ovarian Residue*
 Ovo-Testis*
 Ovo-Thyroid
 Ox Gall
 Pancreas
 Pancreatin
 Parathyroid*
 Parathyroid Co.*
 Pepsin
 Peptone*
 Pineal
 Pituitary Whole Gland*
 " Anterior Lobe*
 " Posterior Lobe*
 " Compound*
 Placenta
 Prostate
 Red Bone Marrow*
 Renal Cortex
 Spleen*
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 " Co.
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*Literature available on request.

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 AND
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 TO
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ALSO
 IN
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 AND
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**ONE OUNCE
 EQUALS
 HALF A POUND
 FRESH
 CALF LIVER**

4oz. Bottle 7/-
 8 „ „ 12/6
 16 „ „ 24/-
 W.Q. 100/-

WE PREPARE A STERILE SOLUTION FOR INTRAMUSCULAR INJECTION.

A brochure on "GLANOID" Concentrated Fluid Extract of LIVER in the treatment of Pernicious Anæmia, Sprue, and allied diseases will be sent to members of the Medical Profession on request.

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The National Advertising appearing daily for this remarkable Quick Seller is the sort of stuff that brings you RESULTS—not promises. It sends customers right up to your counter and puts MORE MONEY into your till or your pocket

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AGAIN
OFFICIALLY
CERTIFIED
"FULLY ACTIVE"

THE
NEW SEASON'S
SOUTHALLS'
Trade "A1" Mark.
COD LIVER OIL

"Bottled Sunlight"
OFFICIALLY CERTIFIED FULLY ACTIVE
IN RESPECT OF
VITAMINS A and D.

BOOK
YOUR CONTRACT
NOW

AND RESERVE
ONE OF THESE
STRIKING
MODELS

THE
GLASS PANEL
OF WHICH IS
ILLUMINATED
WITH
ELECTRIC
LIGHT
(Fisher
Supplied).



MODEL
LOANED FOR
ONE MONTH'S
DISPLAY.

Length 26".
Height 16".

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Pharmaceutical Society of Great Britain.

Certificate

No. 1931

Date: 1 / 6 / 31

"The Cod Liver Oil has been found to be fully active, both in respect of the growth-promoting Vitamin A and of the anti-rachitic Vitamin D, as determined by biological tests carried out by the Pharmaceutical Society of Great Britain.

Southalls' "A1" Cod Liver Oil is packed in amber bottles to protect the vitamins in the oil against the destructive action of light.

Copy of Official Certificate
affixed to every bottle.

	4 oz.	8 oz.	16 oz.	32 oz.	Per bottle.
P.A.T.A. . . .	10½	1/4	2/6	4/6	
6 doz. 8 oz. . .	6/9	10/3	18/-	33/-	Per doz.
(or the equiv.)	6/6	10/-	17/6	32/-	
12 doz. 8 oz. . .	6/3	9/9	17/-	31/-	
(or the equiv.)					

Manufactured in our own Factory in the Lofotens, Norway.

SOUTHALL BROS. and BARCLAY Ltd., BIRMINGHAM.

How Many Tooth Brushes



Do You Stock?

Multiplication of stocks is one of the chief causes of loss in the chemist's business.

Tooth brushes are a typical example! It is possible to duplicate tooth brush stocks so often, to carry so many patterns and makes, that, taken as a whole, the business is unprofitable.

The Meritor series of Bone and Celluloid Brushes have been planned to save duplication of stocks and to make the chemist's tooth brush business more profitable.

With these two tooth brush cases you can work your tooth brush business on a minimum capital and at maximum profit.

You will cover a sufficient range of patterns and sizes to suit all customers. You will have the means of displaying your brushes effectively and continuously and of carrying your stocks conveniently and economically.

Above all, you will be running your own line of tooth brushes—a branded brush which no outside retailer can sell. You will be helping to protect prices and to safeguard your own profits.

You will be building your tooth brush business on modern, rational methods, with fair prices and fair profits as a foundation. You will be working for to-morrow as well as for to-day.

The Meritor Cases are supplied free with standard stocks of brushes—bone brushes to the value of £2 19s. 2d., Celluloid brushes to the value of £2 19s. 6d. A complete tooth brush stock of 10½ dozen brushes, with display cases, for less than £6.

S. Maw, Son & Sons, Ltd.,
Aldersgate St., London,
and Barnet.



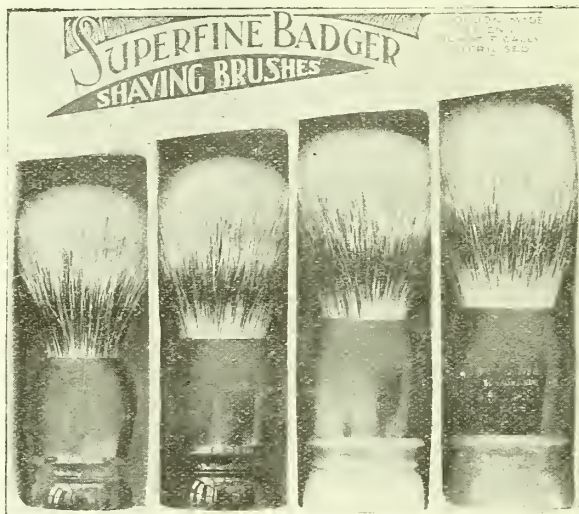
SHAVING BRUSHES

LONDON MADE—GUARANTEED

*Supplied in
Fancy Colour
Handles*

*or
Horn Handles*

*or
White Non-
split*



*Badger of
Super Quality*

*Glass Front
Counter Case*

*per
case* £2 10 0

2nd Quality do.

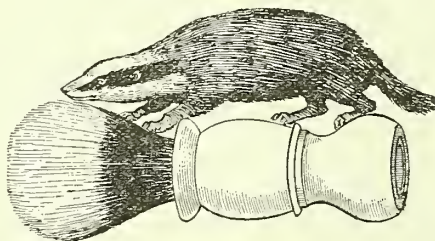
*per
case* £1 17 6

Case of Four Assorted Sizes.

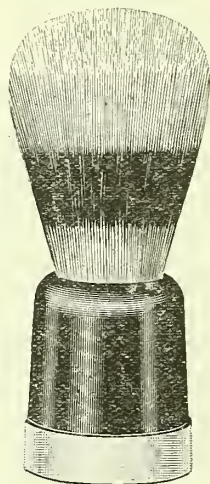
Super Quality		2nd Quality	Super Quality		2nd Quality
No. 3.	50/-	44/- per doz.	No. 1.	78/-	51/- per doz.
No. 4.	70/-	54/- "	No. 2.	114/-	66/- "
No. 5.	93/-	66/- "	No. 3.	132/-	102/- "
No. 6.	114/-	84/- "			
No. 7.	138/-	92/- "			
No. 8.	164/-	108/- "			



The "Simpson"
Supplied in 6 Sizes.



BAJER BRAND
TRADE MARK REGISTERED



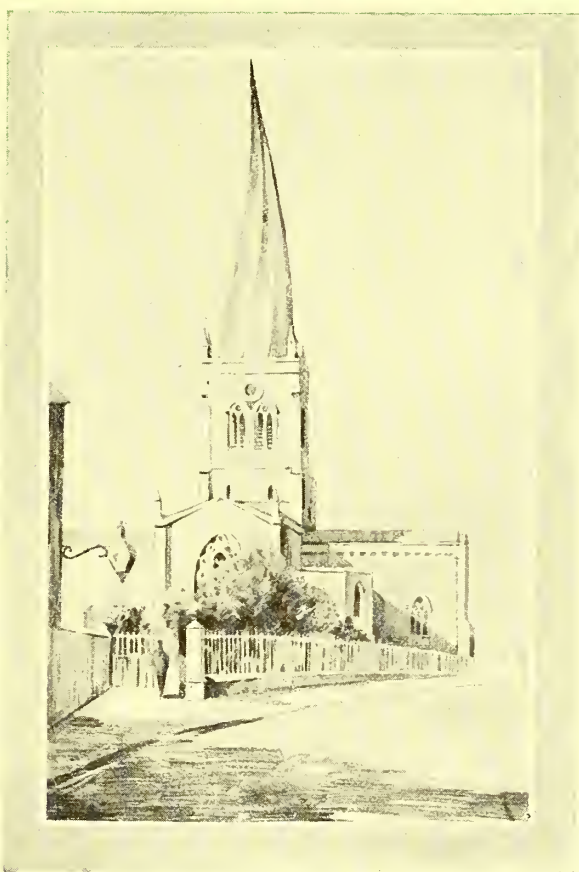
The "Stumpy"
Supplied in 3 Sizes.

WILLIAM EDWARDS & SONS

Wholesale and Export Druggists' Sundriesmen,

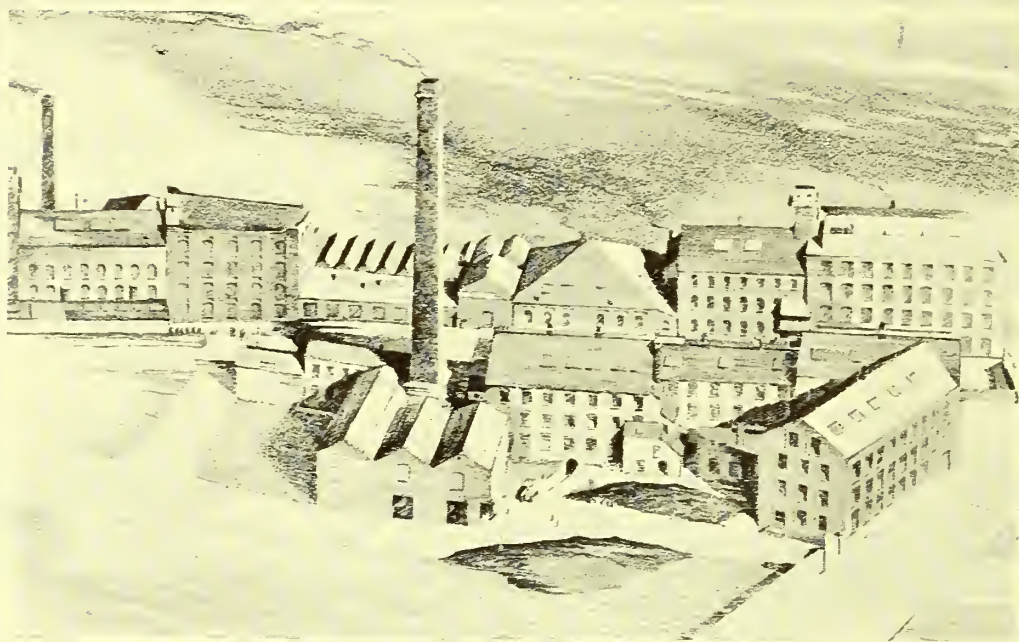
14-18 NILE STREET, CITY ROAD, LONDON

THE “ROBINSONS of CHESTERFIELD” BOX SERVICE



THE CHURCH

CHESTERFIELD Parish Church is cruciform in shape, and is of various dates, from early English onwards. Its chief exterior feature is a curious twisted spire, which is 230 feet high, and has won for Chesterfield the title “The Town of the Crooked Spire.” Various humorous reasons have been suggested for this crookedness, but the true explanation is that it was built of green timber, and the heat of the sun warped the timbers, and twisted it six feet to the south.



HOLMEBROOK WORKS

Holmebrook Works are in the background, and they are devoted to the manufacturing of rigid cardboard boxes.

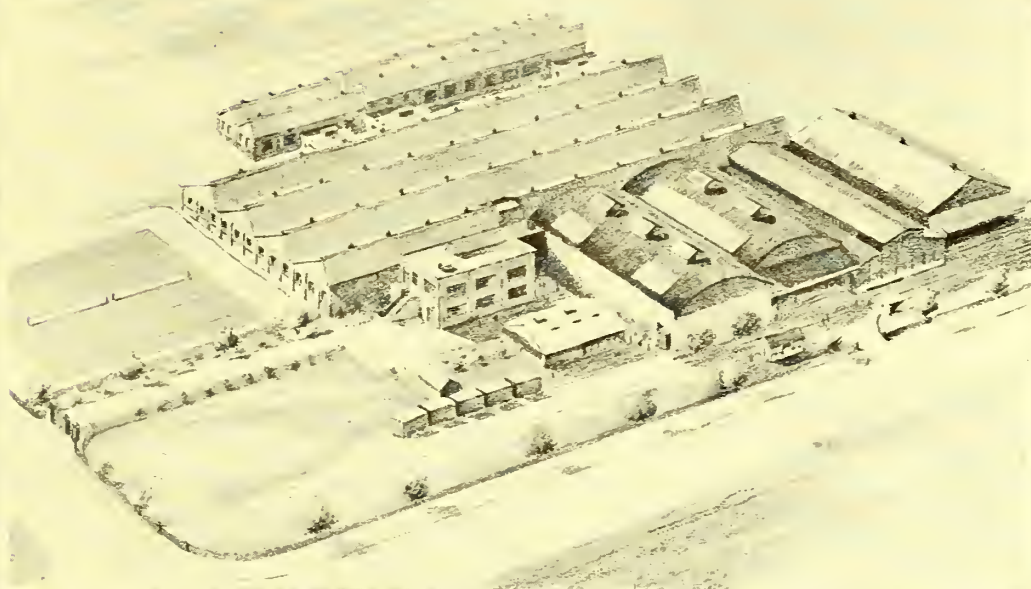
WHEAT BRIDGE MILLS

On the right are Wheat Bridge Mills, the home of the famous Pill Box and "Little John Drums" and other round boxes.

THE "ROBINSONS OF CHESTERFIELD" BOX SERVICE

THE HISTORY OF ROBINSONS

In 1750 William Robinson, the great, great grandfather of the present Directors of Robinson & Sons, Ltd., was the manufacturer of earthenware and Churchwarden pipes in Bolsover, a small village in North-East Derbyshire, but the smoke was a nuisance in the eyes of the Lord of the Manor, and he was summarily rejected not only from his house, but from his pottery. Undaunted, he moved to Chesterfield and built himself a house and a new pottery, and prospered greatly. His son sold a portion of the pottery, and in 1839 turned the house into a Pill Box factory. From these small beginnings sprung the factory which now employs 2,568 workers in four important factories in Chesterfield, and is known the world over for the excellence of its products.



THE PORTLAND WORKS

The railway runs into the factory, and all the manufacturing operations are carried out on one floor, under perfect lighting and working conditions.

THESE WORKS CONTAIN

the Carton departments and also a Lithographic, a block-making, a photolithographic and a letterpress printing department, and here is to be found the large staff of artists and designers.

ROBINSONS' ACTIVITIES

Robinsons have the exclusive patent rights of automatic machinery for the manufacturing of many classes of boxes, of which they are the sole manufacturers by machinery in this country.

Robinsons' older factories are completely modernised, and equipped with the very latest machinery.

They pay high regard to the welfare of employees, and each factory has an up-to-date first-aid room. Bradbury Hall is the centre of social activities, and attached to it is a canteen where 1,000 people can be accommodated. It would be hard to find a better equipped amateur theatre. Bradbury Hall contains Reading, Billiard and Rest Rooms, and is the headquarters of Robinsons' own Operatic Society. A large sports ground near by includes tennis courts, hockey ground, football field, cricket pitches, bowling green, and a large swimming pool.

THE
"ROBINSONS"
OF
CHESTERFIELD"
BOX
SERVICE

The
"ROBINSONS
OF
CHESTERFIELD"
BOX SERVICE
FOR
ROUND, SQUARE
OVAL and FOLDING
CARDBOARD
BOXES

ROBINSON & SONS, Ltd.
WHEAT BRIDGE MILLS
CHESTERFIELD

LONDON
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CHESTERFIELD
Wheat Bridge Mills
Tel.: 2105 (3 lines)

Reduced Facsimile of Artistic Carton in Colours



LARGE BOTTLES :

Price 12/- per dozen

Retail P.A.T.A 1/4 per bottle.

“LUTON” HAT DYE— ALWAYS FIRST!

OLD friends need no introduction—we know their sterling qualities and instinctively trust them. All Pharmacists know “Luton” Hat Dyes and many millions of satisfied users will accept no substitute. They are first in quality and they are sold under guarantee of satisfaction. This guards your reputation and ensures your customers’ goodwill.

“LUTON” HAT DYES are heavily advertised, and 1931 is definitely a Straw Hat Year.

Do not stock inferior Dyes—push “LUTON” and retain the confidence of your Lady Customers. Each bottle in separate Carton, complete with Brush, in the following colours, Dull or Glossy :—*Black, Navy Blue, Brown, Nigger Brown, Dark Brown, Nut Brown, Burnt Straw, Royal Blue, Nattier Blue, Saxe Blue, Poppy, Purple, Royal Purple, Jade Green, Emerald Green, Heliotrope, Grey, Rust, Pink, Olive Green, Myrtle Green, Old Rose, Primrose, Ruby, Kingfisher Blue, Mole, Almond Green, Flame, Silver Grey, Fuchsia, Royal Mail Red, Golden Brown.* Any other shade can be matched or supplied.

EXPORT

Very special prices and terms are offered for Export.

Write for particulars.

TAKE ADVANTAGE OF THESE SPECIAL DISCOUNTS:

5% for Cash in 7 days on all Orders.
2½% plus 5% for Cash in 7 days on £4 Parcels.
5% plus 5% for Cash in 7 days on £8 Parcels.

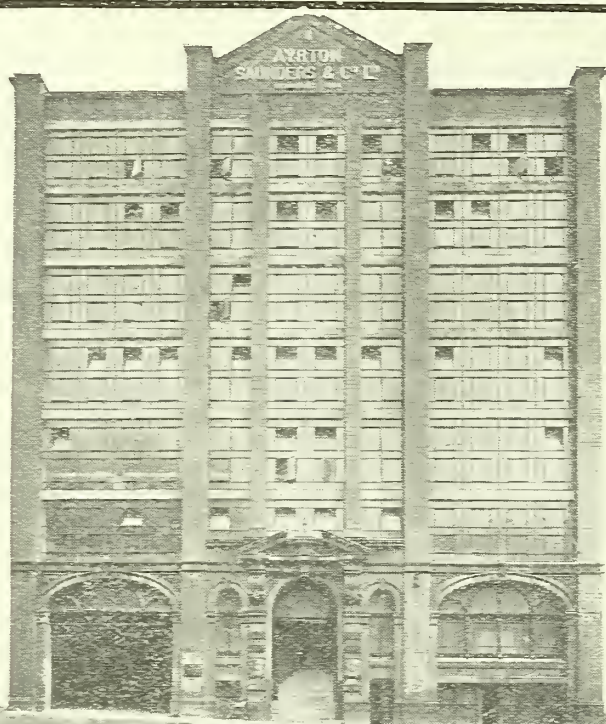
SPECIAL 1931 BONUS OFFER.—In return for a full “Luton” Window Display lasting at least 7 days we will allow a Bonus of one bottle to every dozen on orders for a minimum of 6 doz.

This is additional to our Special Discounts.

ORDER TO-DAY FROM

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PROPRIETORS of AURORA Cold Water Dyes, WINNER Stocking Dyes, WINNER Home Dyes, VELT, Etc.



Firm foundations

SINCE 1868. Growing, developing, expanding. Expert in things established: full of initiative in things new.

Occupied unceasingly in current tasks: and yet building for the future on the firm foundations of the past, with the materials of the present.

Ayrton's progress reflects the success secured by Ayrton Customers. We have grown *with* them, *by* them and *for* them. Each covers a separate sphere of pharmacy though with intertwined interests. Free from the commercial octopus of tied association: sturdy in our individual independence.

We were established to serve

—LET US SERVE

LET
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QUOTE
AND NOTE
THE
SAVING

*The goodwill
of the
Trading
Chemist*

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Drugs

Manufacturers of Galenicals, Emulsions, Cremors, Ointments Extracts, Essences, Infusions, Liquid Extracts, Decoctions, Syrups, Tinctures, Concentrated Waters and Mixtures, Granular Preparations, Fine Chemicals, Private Formulæ, etc., etc.

Packed Goods

The finest range of Chemists' Packed Specialities, Tablets, Pills and Capsules; leaders in "Own Name" goods.

Tablets Pills &

Capsules

Our manufacturing plant is completely equipped and has an enormous output, under expert and technical supervision and analytical test.

Druggists' Sundries

and

Surgical Appliances

Every item in our list is in our stock. Price List on application. Contains 4,320 index entries—truly an encyclopædic guide to commercial pharmacy. A customer recently wrote us enthusiastically, "*2½-page invoice without a 'short.' Cheers! Splendid!!*"

Bottles

Ayrton's are the largest distributors of bottles to the Chemist, and are the proprietors of the "Ayrton Oval" acknowledged to be the finest bottle in Pharmacy.

Opening Orders

"I was very pleased with your work--the goods were excellently packed, and there were no breakages whatever. The printing on the packed lines was very good, and I am pleased with the quality of the Drugs."

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Useful sections which afford great opportunity for Chemists in Agricultural and Rural districts to secure that which is their rightful due. Special attention given to "own formulæ" preparations.

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One of the largest stocks in the land, and equal to the best in speedy service.

Fancy Goods

The Chemists' seasonal trade is well catered for, and a full range of up-to-the minute goods, at competitive prices, is always on hand.

Sponges, Corks,
etc.,
by direct import.

SEND YOUR WEEK-END
ORDER TO AYRTON'S



Quinine

*Amsterdam Brand
Java Brand
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QUININE *and* QUININE SALTS.
QUININE ETHYL CARBONATE.
CINCHONINE, CINCHONIDINE,
QUINIDINE *and their* SALTS.

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Piperazine and Salts.
 Pyrazoline (*Phenazone*)
 Pyrazoline Salicylate
 (*Phenazone Salicylate*)
 Resorcin
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Perfumes
- Solid Perfumes
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THE OCEAN COAST OR
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WHITE TEETH ?**

FRANCES
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MAKERS

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USED

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DENTIFRICES**
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EFFICIENT
REFRESHING
MATCHLESS

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GELLÉ FRÈRES

Obtainable from all Wholesalers, or direct from :

J. DUPONT & CIE

18 FORE STREET . . . LONDON, E.C.2

SOLE AGENTS FOR THE UNITED KINGDOM

FLORAL PERFUMES ARE ALWAYS IN FASHION

BUT, to satisfy your customers, they must be :-

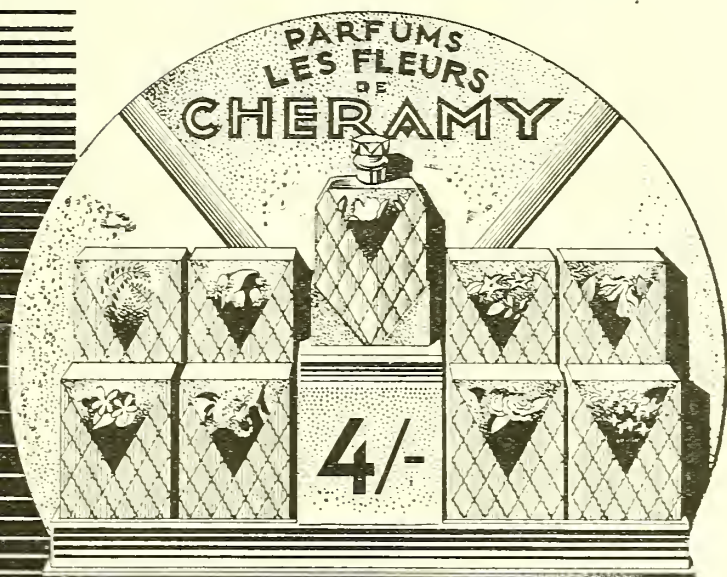
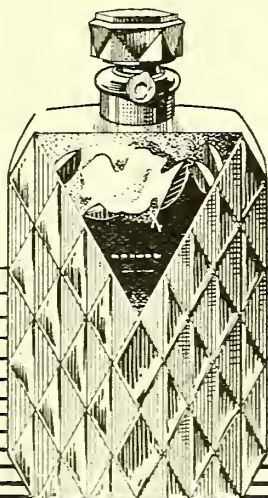
- of the highest quality
- attractively packed.

The new perfumes "LES FLEURS DE CHERAMY" fulfil both conditions. They are prepared with the highest-grade essences from flowers gathered in the sunny South of France and with pure alcohol. Seven different perfumes, all fresh, animated, lasting. An attractive pack. A price that makes selling easy.

A practical and handsome Stand
- a self-seller - given free with orders. -

To retail at 4/- in any perfume
(28.10 d. per dozen nett).

SWEET PEA - VIOLETTE - CHYPRE - LILAC - JASMIN
MUGUET (LILY OF THE VALLEY) - FOUGERE (FERNS)



PARFUMS
"LES FLEURS" OF

CHERAMY

PARIS

LARDEN ROAD PARFUMERIES DE PARIS LIMITED ACTON, LONDON W3



PATENTS APPLIED FOR IN PRINCIPAL COUNTRIES THROUGHOUT THE WORLD.

THERE IS NO DOUBT ABOUT IT SAVILLE'S *June* SLIDE COMPACT

is the cutest and most fascinating compact ever invented.

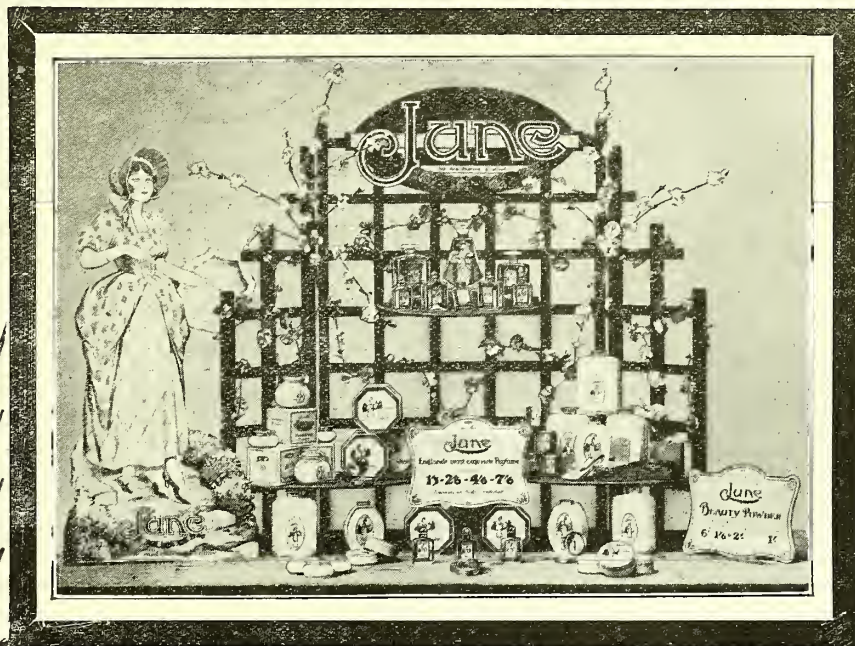
It has CAUGHT ON, because ladies everywhere are charmed with its fascinating mechanical action (on withdrawal of the slide, the mirror automatically springs into position) which makes an irresistible appeal to their desire for **NOVELTY**, combined with **SIMPLICITY, RELIABILITY** and **ELEGANCE**.

Packed in **GREEN SUÈDE POCHETTE**, each in artistic outer to retail at **2/6** only - - - Price per dozen, **20/-**
SPECIAL REFILLS for the slide case, Retail **1/-** Per dozen **8/-**

ORDER TO-DAY, either direct, or through your usual wholesale house

NOTE. The charming cut-out **SHOW-CARD** illustrated above is sent with direct orders. It displays the novel features of this unique production to the best advantage. Place in a prominent position on your counter—**THEN LOOK TO YOUR STOCKS.**

There's nothing like this **June** display
to keep you busy every day



HERE'S A BONNY SHOW—

so full of life — so colourful — artistic and inviting. A display so “out of the ordinary” that it literally compels attention — bringing **RESULTS** which amply justify the expensive nature of the material employed and the time and space devoted to it.

SPECIFICATION. A folding trellis screen solidly constructed of slotted timber, stained green and covered with pink and red artificial roses. Three shelves (one central, two corner) are provided to display the goods in an appropriate floral setting. The size of screen when opened is 29" high, 30" wide, 8" deep, and forms an exceedingly artistic centrepiece which lends itself to a wide variety of really charming and effective displays either for window or counter.

SIMPLE TO ERECT - EASY TO DRESS

THE COMPLETE OUTFIT **PRESENTED FREE** TO RETAILERS WITH
ORDERS VALUE £10 AND OVER. SEND FOR YOURS TO-DAY

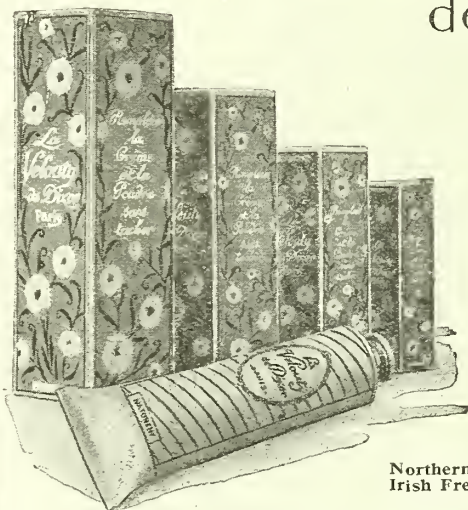
SAVILLE PERFUMERY LIMITED

WATFORD, HERTS.

The original combined Cream and Powder

la **VELOUTY**

de **DIXOR** Paris



The advertised line that you are asked for.

NOW ON P.A.T.A.

Samples free upon receipt of trade card or billhead.

PRICES:—No. 1. Handbag tube	3/-	doz.	Retail -/4½
No. 2. Small tube	4/-	"	" -/6
No. 3. Medium tube	7/-	"	" 1/-
No. 4. Large tube	14/-	"	" 2/-
No. 5. Super tube	22/-	"	" 3/-
Pots	21/-	"	" 2/9

Made in four shades:

WHITE, IVORY, NATURAL and OCHRE.

Obtainable from your regular Wholesaler or direct from the Sole British Agents:

DEBACQ & HARROP,

68 Newman Street, Oxford Street, London, W.1.

Sole Distributors for

Northern Ireland: **ROBERT MAYRS & CO.,** 43 Chichester Street, BELFAST
Irish Free State: **MAY, ROBERTS & CO. LTD.,** Grand Canal Quay, DUBLIN

Always have a show of
BUTYWAVE SHAMPOO!

Because it makes new customers every day. They buy it. They like it. They thank you and become your friends—and it pays you handsomely. No other nationally advertised shampoo shows the same profit

80% on six dozen lots

(13 supplied to the dozen)

Calvert's
CARBOLIC
Tooth Powder

NEW DISPLAY TERMS

on parcels of one gross 6d. tins or equivalent value
(Carriage paid to any railway station in Great Britain)

F. C. Calvert & Co. Ltd., have pleasure in announcing the offer of a special display discount of 5% on orders not less than £2 14s. gross value, together with a further discount of 2½% for cash with order, or within 28 days from date of invoice on approved accounts.

This offer refers only to goods listed on pages 1 to 14 in their price list and does not apply to orders £4 gross value and upwards on which higher discounts are obtainable.

F. C. Calvert & Co. Ltd.
Manchester.

SOIR de PARIS

(EVENING IN PARIS)

ADVERTISING IS DOING BIG THINGS
FOR YOU



"Soir de Paris" is being actively advertised all over the country in

NATIONAL and LOCAL MEDIA.

May we urge you to turn this to the fullest possible profit for yourself? Show "Soir de Paris" in your window and on your counter.

The 1/3 Vanity Bag bottle of Perfume and 1/9 box of Face Powder are being specially featured. There is nothing, at these prices, to equal them for distinctiveness, and all-round appeal.

Specially favourable terms are offered for window display parcels. Now, while the advertising is pulling big business, get the full benefit of it in your own returns. Full details of special offers available on application.

Perfume. Face Powder.
Vanishing Cream.
Compactes. Bath Crystals.
Bath Dusting Powder.
Talcum Powder. Lip Stick.

A. BOURJOIS et CIE., LTD.,
4, Water Lane, London, E.C.4

BOURJOIS

PARIS NEW YORK SYDNEY WELLINGTON

Keep a Good Stock of These Pre-eminent Hair Toilet Preparations

HARLENE Hair Toilet Preparations are Pre-eminent for their Quality and Efficacy. And the Public are told this week after week in millions of copies of the biggest National Newspapers in the country. By a forceful and regular extensive Advertising

Campaign HARLENE Preparations are always kept right in the public eye, and the Public BUYS. Therefore it behoves YOU to keep a good stock of these popular Hair Toilet Requisites always on hand. Among the HARLENE range the most Popular are

"Harlene"

HAIR GROWER & TONIC

"CREMEX" Shampoo Powders

"U Z O N"

Brilliantine

"HARLENE"

Wave - Setting Lotion

"ASTOL"

For Grey Hair

"HARLENE"

Hair Fixative

NOTE

Terms to the Trade are Generous, and you know that when you stock Harlene Preparations they are never left "on the shelf."

Kindly address all communications to the Company as under.

NOTE

EDWARDS HARLENE, LTD.

20-26 Lamb's Conduit St., London, W.C.

REAL
ITALIAN

POTTERY

BATH CRYSTAL
CONTAINERS.

A SELECTION FOR AN
APPEALING SERIES OF
ITALIAN POTTERY
CONTAINING
PIESSE & LUBINS
BATH CRYSTALS
AND
BATH COLOGNE

PRICED TO RETAIL
FROM 4/6 TO 7/6
USUAL TRADE DISCOUNTS



PIESSE & LUBIN LTD

(INCORPORATING) BAYLEY & CO

13, SOUTHAMPTON ST. HIGH HOLBORN, LONDON. WC2

And Now!

CHUBBY

SHAVING STICK

REFILLS 10^D EACH

1¹/₃ EACH

BAYLEY & CO. LONDON. ESTABLISHED 1733.

MADE IN ENGLAND

A Man's Job!

- ☐ A modern product for the modern man.
- ☐ Artistic bakelite case of entirely new design.
- ☐ Shaving Soap of unquestionable purity.
- ☐ Easy fitting refills with aluminium screw-in base.

1¹/₃ EACH

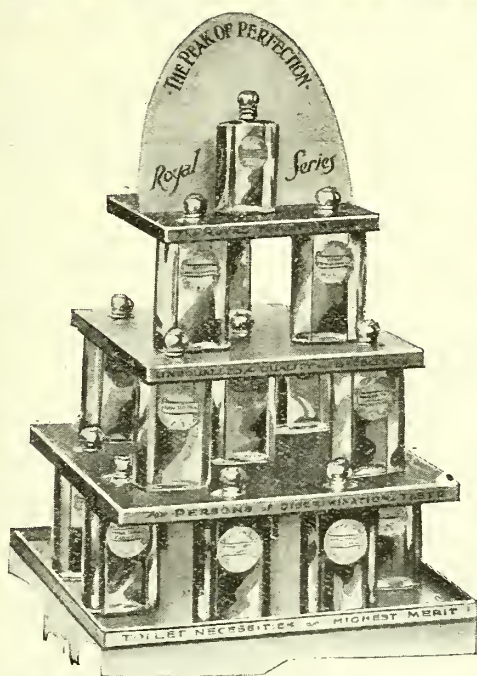
REFILLS 10^D

Usual Trade Discounts

FROM YOUR WHOLESALER OR DIRECT FROM

PIESSE & LUBIN LTD INC. BAYLEY & CO. LONDON!

ROYAL TOILET SERIES



This unique show stand is given free with orders for 3 doz. Royal Toilet Series

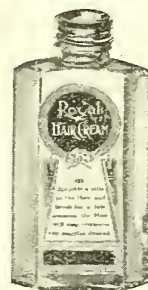
PROFIT 100%

PRICES :

4 oz. 7/6 doz.

6 dozen **7/-** any assortment

8 oz. 12/-



The smartest and most profitable Toilet Series in the trade

The following are available in this series :—

- Royal Bay Rum
- " " and Cantharides
- *Royal Brilliantine
- *" " Odourless
- Royal Complexion Milk
- Royal Face Powder (Liquid)
- Royal Hair Cream
- Royal Hair Tonic
- *Royal Honey and Flowers
- Royal Honey and Almonds
- Royal Shampoo Foam
- *Royal Toilet Paraffin
- *Royal Violet Oil

(*2 oz. 6/- doz.)



ARTHUR H. COX & CO. LTD

Manufacturing Chemists

BRIGHTON ENGLAND

WRITE FOR THIS SHOWCARD.

It is so Refreshing!

Frozoclone

THE ORIGINAL SOLID
EAU de COLOGNE

Frozoclone

REGD.

is the Original
Solid Eau de Cologne

This Showcard in full colours is now being displayed in London's Underground. There is bound to be a big response from the discriminating public. Therefore stock NOW.



Actual
size of
large
packing

Retail P.A.T.A. 3s. 6d. & 2s. 0d.

Per doz. 32s. 0d., 18s. 0d.

WARNING!

Imitations have been produced under similar names and style of packing, closely resembling Frozoclone in outward appearance only, with the object of misleading the public. Proceedings have been taken, and always will be rigorously pursued, against all such imitations.

R. DEMUTH'S
68 SALUSBURY Rd., and

MIRADOS

Regd



A new scientific preparation which prevents and alleviates the stings of mosquitoes and other insects.

Rapidly absorbed into the skin and does not soil or stain the clothes.



Artistic Cut-out Showcard in colour to hold one bottle available on application.

PRICE $1\frac{1}{3}$ P.A.T.A.

Wholesale 10/- per doz.

We are open to appoint AGENTS in the Colonies and Tropics (with the exception of South Africa).



LABORATORIES
NTROSE AV., London, N.W.6

MIRADOS

THIS scientific preparation for the prevention and alleviation of bites and stings of mosquitoes and other insects, has been thoroughly tested and has the approval of the most eminent Research Laboratory for tropical diseases.

MIRADOS may be used freely and should be applied over the neck, hands and all exposed parts.

Although composed of oily substances it is rapidly absorbed into the skin, leaving an imperceptible film, but no trace of oily matter, and therefore does not soil or stain the clothes.

This preparation contains 1 per cent. phenols.

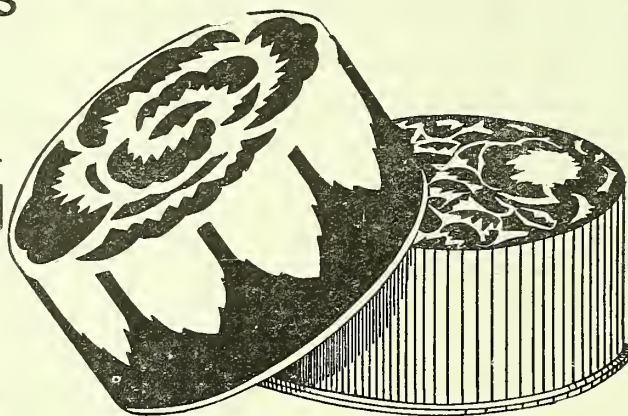
POISONOUS. NOT TO BE TAKEN

R. Demuth's Laboratories, London, N.W.

Made in England

A NEW POWDER
 "UN PARFUM D'AVENTURE"
L.T. PIVER
 PARIS

a PERFECT POWDER in
 an exquisite lacquered
 metal box.



Wholesale 14/- Retail 1/9

Made in: rachel, rachel foncée, naturelle, blanche, rosée, ocre, ocre rosée No.1, ocre rosée No.2
PARSCENT Ltd. 102, Dean St, London, W.1. Telephone Reg.5260

*If its
 Customers
 you want*

YOU SHOULD STOCK

PETAL DUST

*"Wherein the subtle savour of the Flowers
 sublimely dwells."*

THE GREAT FLORAL AIR PURIFIER

A TRIAL WILL CONVINCE YOU THAT—

PETAL DUST, when once shown, creates its own demand, and is therefore a valuable adjunct to every "go-ahead" store.

PETAL DUST, when displayed prominently upon your counter, will attract prudent customers by the fragrance of its unique odour, which to-day is of such universal admiration.

RETAILS IN PACKETS AT 4d. AND 8d. EACH.

Attractive Advertising matter free on request.

Obtainable through all the usual Wholesale Houses or from
 Sole Producers:—

THE ROSMARINE MANUFACTURING CO.
 LONDON, S.E.1



**BETTER BE SAFE
 THAN SORRY . . .**

**CUSTOMER-SATISFACTION
 IS STILL THE BEST POLICY**

Protect your trade by protecting
 the customer. Sell Nuctone ex-
 clusively for recolouring of hair.

Order from your usual Wholesaler

Nuctone
SAFE FOR GREY HAIR

All for  Beauty



*We shall be most happy to share
our great success with you!*

Harriet Hubbard Ayer are proud to think that their beauty preparations have—in so short a space as three years—established themselves firmly in the favour of discriminating Englishwomen. Important retailers all over the country are finding it pays them well to stock the whole range—and, lately, have found it necessary to carry larger supplies.

We can, we think, attribute their success to three things. First, the outstanding quality of Harriet Hubbard Ayer preparations, and the obvious improvement every woman notices in her looks after she has used them for a very short time. Second, their very real economy—for each cream and lotion combines in itself more than one function—LUXURIA, for instance, is a bleacher, a cleanser and a skin food, all in one. Lastly, widespread, judicious advertising in the National Press and in the most fashionable women's periodicals.

By linking up with Harriet Hubbard Ayer now you will be doing a really sound thing for your business. You will identify yourself with an established success—and be in a position to offer your customers a product which never fails to please them.

Write to Harriet Hubbard Ayer Ltd., 130 Regent Street, W.1, for a comprehensive catalogue and terms. Or, better still, call in and see our spacious new showrooms and we will gladly give you all particulars personally.

The retail prices for the famous LUXURIA Cream are 2/3, 4/6, 8/6, 11/9.

HARRIET HUBBARD AYER

Beauty Preparations

LTD

LONDON

PARIS

NEW YORK

Mercolized Wax

for the Complexion

Extensively Advertised. Always in Demand.

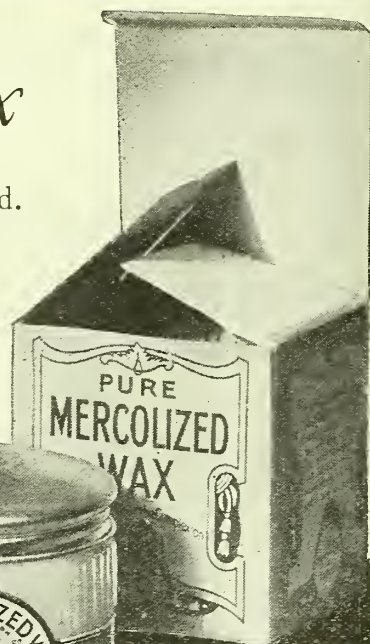
*There is no risk in holding full stocks.
Every woman is a potential buyer.
Sales are regular and repeats certain.*

Stallax

*a Shampoo—also popular,
and shows a handsome profit.*

Dearborn
(1923) Limited

37 Gray's Inn Rd. London. W.C.1.



Telephone,
Holborn. 9669

To show it is to
SELL
it!

Your customers know Anzora—know that it is the finest hair fixative on the market. Time after time the sight of it in your shop will remind them that they need another bottle. Showing it is all the salesmanship it needs. Its wonderful popularity does the rest. Keep Anzora well displayed—it is a quick-selling and profitable proposition.



ANZORA

MASTERS THE HAIR

Anzora Perfumery Co., Ltd., London, N.W.6

TRADE
TERMS

12/- doz.

Retail at 18/-

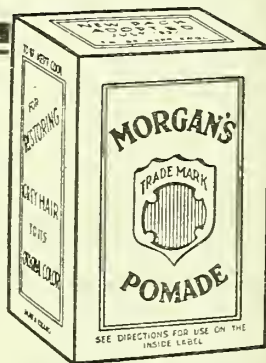
20/- doz.

Retail at 30/-

COMMENCING
JULY 1ST

A new
package
for

**Morgan's
Pomade**



The new carton for Morgan's Pomade is far more attractive than the old wrappings—it is more convenient for handling and storing and it makes a display easier.

Only the carton has been altered—the Pomade itself is exactly the same—the most efficient restorative of natural colour to grey or faded hair.

Purchasers have already been advised of this intended change.

Trade terms and full particulars from:—

THE MARIE ANTOINETTE Co., Ltd.
149 Junction Road, Upper Holloway, N.19.

IT PAYS TO DISPLAY

AMO SHAVING CREAM

A BRITISH
PRODUCT

**GIANT SIZE
TUBE**

Each Cellophane
Wrapped

Packed 1 doz.
— in —
**DISPLAY
CARTON**

Illustration is
actual size

APPLY AT
ONCE FOR
TRADE
TERMS

OR SEND 9d. FOR
SAMPLE TUBE POST PAID



**4
OZS.
NETT**

A DELIGHTFUL AND
EMOLLIENT SHAVING
CREAM OF SUPERIOR
QUALITY INGREDIENTS
CONTAINING PROPERTIES
FOR PROTECTING THE SKIN

SELLS AT

1/-

PER TUBE

THE AMO SAFETY RAZOR BLADE CO. LTD.
BROAD STREET HOUSE, LONDON, E.C.2

A. S. LLOYD'S

EUX-E-SIS

**For Shaving without
Soap, Water or Brush**

CAUTION to the TRADE

**Labels on the genuine EUXESIS not
only bear signature of A. S. Lloyd
in Black Ink, but also "Prepared
only by his Widow" and signature
of 'Aimée Lloyd' in RED.**



Tubes 1/6 & 3/- ~ 33 $\frac{1}{3}$ % Profit

SOLE MANUFACTURERS & PROPRIETORS:

AIMÉE LLOYD & CO. L^{TD}

**23 PANTON STREET
HAYMARKET, LONDON, S.W.1**

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

From Every Point of View

HOWEVER you look at it, selling Euthymol Tooth Paste is well worth while for any chemist. Euthymol is a good product, prepared from the finest materials and having over 30 years' experience of tooth paste manufacture behind it. It is standardised to a definite germicidal power. It receives the wholehearted recommendation of many influential members of the dental profession. It is constantly recommended by a wide circle of habitual users. Moreover, it has been sanely and honestly advertised in the national press for many years, and every advertisement directs the customer to a chemist. Euthymol shows a good profit, particularly for chemists who are prepared to co-operate with us. Send for particulars.

PARKE, DAVIS & CO.
50 Beak St., London, W.1
Inc. U.S.A.: Liability Ltd.
LABORATORIES: HOUNSLOW,
Nr. LONDON

GRAND PRIX (Highest)
A
SCIENTIFIC
TOILET
PREPARATION

Euthymol
TOOTH PASTE

Introducing new **IODENT** Show Material we make a special offer

IODENT

Original and only
**IODENT TOOTH
PASTE**, contains an
effective Iodine appli-
cation in each half inch
of paste

ESSENTIALLY A
CHEMIST'S LINE

Carriage paid

3 DOZEN 6d. - - - at 3/3
1 „ 1/- - - - at 6/6

Carriage paid

in British Isles

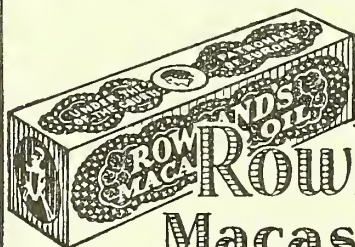
With each order we will enclose a triple
folding card (height 12 inches, extreme
width 22½ inches)

IODENT LABORATORIES. 56 Durham Road, HOLLOWAY, N.7

for 138 years!

Rowland's Macassar Oil has behind it a reputation of 138 years, and retailers can turn that goodwill to their own account with considerable profit. As a hair-dressing it is unsurpassed, whilst for hair troubles such as dryness of the scalp, partial baldness and falling hair, it is a specific. You will profit materially by recommending it.

OF ALL WHOLESALERS.



Retail 3/6, 7/-
and 10/6, red
for dark hair,
golden for fair
or grey hair.

Rowland's Macassar Oil

A. ROWLAND & SONS, LTD.
22 Laystall Street, Rosebery Avenue,
LONDON, E.C.1

Perfect Blades- "Mirror" Blades

10 out
of 10



The New Watts "Mirror" Blades

These wonderful Blades with their **Rustless Reinforced Edges of Stainless Steel** treated by a secret process are worth the extra cost. They are keener and give more and better shaves than any others on the market. The Edges are absolutely rustless in any climate.

Watts Mirror Blades

Packed in Patent Spring Lid
Nickelled Containers of
10 for 3/4

Also Packed in cartons of
5 for 1/8

Giving the Retailer 66⅔%
PROFIT on cost.

JOHN WATTS (Sheffield & London) Limited
Lambert Works, SHEFFIELD. Established over 150 years.
London: 18 Soho Square, W.1

TAYLOR'S CIMOLITE TOILET POWDER

THE PERFECT POWDER FOR NURSERY USE



A perfectly bland and non-irritating Powder, invaluable in all cases of Excoriations, Chafing, Roughness of the Skin, etc. Recommended by eminent skin doctors and recognised as the leading Toilet Powder for over 70 years by the nursing profession. Used in the Royal Households.

In deference to the many requests received from users of "CIMOLITE," a sprinkler tin to retail at 1/1½ is now available. This new packing is in addition to the familiar 1/1½ packet which is still on the market.

When ordering please specify TINS or PACKETS.

"CIMOLITE," in all sizes, also CIMOLITE SOAP AND CREAM, is stocked by all Wholesale Chemists and Druggists.

TERMS and ILLUSTRATED PRICE LISTS, also ATTRACTIVE SHOWCARDS. Counter Bills and other selling literature, obtainable from

JOHN TAYLOR, 30 Baker Street, Portman Square, LONDON, W.1.

SEND FOR
FREE SAMPLES

See COUPON below

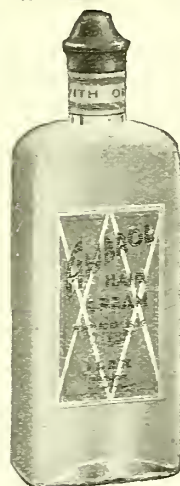
"Ambrol"

THE NEW FIXATIVE HAIR CREAM

Does Not "Powder" the Hair

"AMBROL" is entirely different from all other Hair Creams. It keeps the hair in position, but does not clog nor form a powder. The oily variety is perfectly emulsified and never requires shaking.

A high-class line with the most attractive appearance of any cream on the market. A certain seller and one for which your customers will always come back.



COUPON C. & D.

Cut out this COUPON and post to us with your trade card or note heading and we will send you free of charge two sample bottles of "AMBROL," oily and non-oily, with full particulars of bonuses and special invoice discounts.

THOS. CHRISTY & CO.
4 Old Swan Lane,
London - E.C.

1/- size 8/- dozen

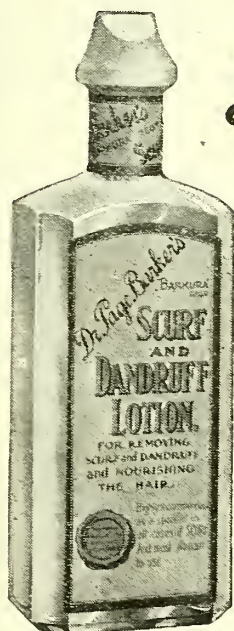
1/6 „ 12/- „

2/- „ 16/- „

BONUS OF THREE
BOTTLES with every three
dozen, also name and
address on label.

SEE COUPON FOR
FREE SAMPLES.

THOS. CHRISTY & CO.
4 Old Swan Lane, London, E.C.



Dr. Page-Barker's Scurf & Dandruff LOTION

The recognised specific for scurf

EVERY bottle of Dr. Page-Barker's Scurf Lotion bears a positive guarantee that it will eradicate scurf or the purchase price will be refunded. This makes it the easiest to sell of all hair and scalp specifics. And the profit is handsome.

2/6

P.A.T.A.

PER 18/- DOZEN

SEE OUR NEW & ARTISTIC SHOWCARDS

WRITE FOR EXPORT TERMS

A GUARANTEE
WITH EVERY
BOTTLE.

With every order for 3 dozen you get three 2/6 bottles as bonus, handsome metal showstand, and attractive showcards.

THOS. CHRISTY & CO., 4-12 OLD SWAN LANE, LONDON, E.C.4.

THE HOUSE FOR

DRUGGISTS' SUNDRIES

SURGICAL SUNDRIES
HOT WATER BOTTLES
B.P.C. DRESSINGS
TOILET BRUSHWARE

TRADE



MARK

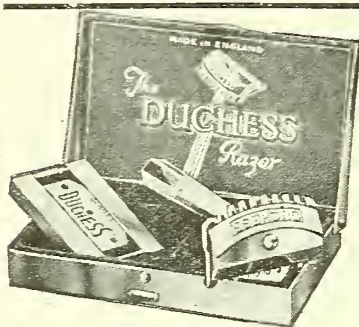
SPECIAL ALL GLASS
SPRAYS. R.J.R. SERIES
LETTERED DELF JARS
NOVOLA DELFETTE JARS
ELASTIC HOSIERY

BRITTON, MALCOLM & WAYMARK, LTD.
38 SOUTHWARK BRIDGE ROAD,
LONDON, S.E.1

Telephone:
Waterloo
1442 (2 lines)

Near Southwark Bridge, South Side of River.

Telegrams:
"Clinbritic,
Boroh, London."



**A
PROVED
SELLER**
from the
**Perfumery
Counter**

THE DUCHESS RAZOR FOR LADIES

ENTIRELY BRITISH

One edge double-curved for underarm toilet,
the other edge straight for neck and legs.

Advertised in Women's Journals

Standard models in neat metal box
Nickelled..... 5/9 Silvered..... 10/6
Gilded..... 15/- Cheaper models 3/6
Extra blades 2/6 packet of 5

STOCKED BY CHIEF WHOLESALEERS

TRADE TERMS 33 $\frac{1}{3}$ %

*Show Material Supplied
Including Velvet Display Pad*

THE DUCHESS RAZOR CO.
318 CAMBERWELL NEW RD., LONDON, S.E.5

NURSE HARVEY'S MIXTURE

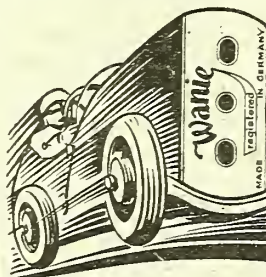
A safe, simple and reliable remedy for Children's Ailments is advertised so extensively in the daily and weekly Press as to bring mothers to the retailer without effort on his part.

The selling has been done before the mother reaches the chemist, and, having supplied her, it is only common sense to claim she will buy other family necessities from him. Moreover, the continuous demand for it produces a quick turnover.

For Direct Terms apply to—

OSCAR SCRUTON & CO., YORK

For Speedy Sales—



WANIE

The 12 Shave-power Blade

**A WINNER!
EVERY TIME!
8/- PER GROSS**

For Sample, write to—
Dept. C.D.,

WANIE DISTRIBUTING CO.
89 Aldgate High St., E.C.3

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*in Medicated Lozenges . . .
and Pastilles
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is a name that stands for
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in a form which appeals
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Bismuth Dyspepsia Tablets
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British Manufacturing Chemists and Allied Trades are now in a position to exhibit their goods in all parts of the World in the Pharmaceutical Section on the T.S.S. "British Exhibitor" at a fraction of the cost that would otherwise be entailed.



THE BRITISH NATIONAL EXHIBITION SHIP HAS BEEN DESIGNED TO EXHIBIT — CREATE SALES and SECURE AGENCIES FOR BRITISH FIRMS IN OVER 30 PORTS OF CALL IN N. & S. AMERICA.

THE PHARMACEUTICAL & ALLIED TRADES

WILL BE THE MOST STRIKING FEATURE ON THIS GREAT PIONEERING CRUISE TO SECURE FOREIGN AND EXPORT TRADE — 246 DAYS IN FOREIGN PORTS.

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Applications are invited from Manufacturers of the following: Drugs, Chemicals (Technical and Fine), packed Pharmaceuticals, Proprietary Medicines, Perfumery, Toilet Specialities, Druggists' Sundries, Photographic and Optical Goods, Surgical Dressings and Instruments, Pharmaceutical and Chemical Plant, Electrical Novelties and Fancies, Etc.

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(up to 78" wide) **PACKINGS****PIECES****BOARDS & BOXES**

*All corrugated productions are
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made strawpaper, produced from
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TRADE
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NORMACOL⁹⁹ BRAND.

Intestinal Evacuant.

is now widely prescribed
under the

**NATIONAL
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INSURANCE**



W. D. HALL & SONS, LIMITED
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GROWING BIGGER

La-nē-ta's

NATIONAL ADVERTISING!

**Its
SALES!
AND
YOUR PROFITS!**



Will not
dry up
in stock.

WITH competition growing fiercer every day, increase your profits by displaying the smaller priced, easily selling advertised lines. Creme La-nē-ta, the best hair-removing cream, has established itself in the public favour by virtue of its effectiveness and its complete lack of unpleasant odour.

There are big profits in the standard 1/6 tube, which shows you 97 % on "standard terms" (12/- per dozen, 15 to the dozen on each order for 3 dozen), and you can increase these profits by selling the 6d. tube (4/- per dozen, 13 to the dozen on orders for 6 dozen).

Display this new 6d. hair-removing cream in its silent salesman counter carton and PROFIT by this NEW BUSINESS.

ORDER. Date.....

To WHITE'S TIBO Co., Ltd., Audry House,
Ely Place, E.C.1

Please send.....

.....doz. 6d. Lanēta.

.....doz. 1/6 Lanēta.

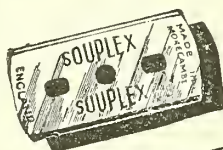
and FREE NEW DISPLAY MATTER.

Name.....

Address.....

**SEND THIS
PROFIT SHARING
COUPON NOW!**

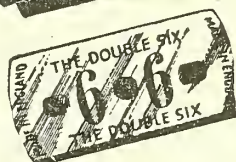
THESE ARE THE BEST BLADES TO STOCK



SOUPLEX

Thousands of satisfied users are increasing the sale of this fine British blade. Get your share of these handsome profits.

2^{D.}



DOUBLE SIX

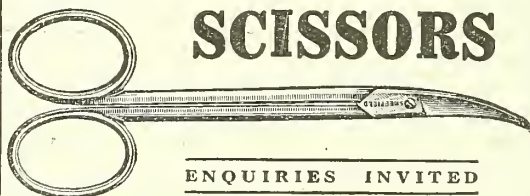
—the best penny blade. Millions already sold and demand growing every day. Start stocking now; men are wanting these blades.

1^{D.}

Write to your usual
wholesaler for particulars
of liberal trade terms

SELL WHEREVER THEY ARE SHOWN

Made by Souplex Ltd., Morecambe



SCISSORS

ENQUIRIES INVITED

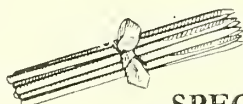
GILL, HERBERT & CO., Ltd.
CUTLERY MANUFACTURERS,
Wheeldon Street, SHEFFIELD

G. B. KENT & SONS, LTD.

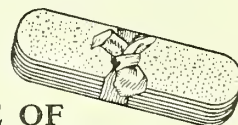
Are known the World over as
the Largest Manufacturers of

BEST BRITISH BRUSHES

Please write for full Particulars to:—
75 FARRINGTON ROAD, E.C.1.



Best Quality Goods



SPECIALIST IN THE MANUFACTURE OF
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BOXED, CARDED OR IN BULK AT COMPETITIVE PRICES

ROBERT LEE - 14 Calverley Grove - UPPER HOLLOWAY, N.19
Wholesale Houses only supplied

'Phone : Archway 2144

ONLY 4 MORE DAYS

A (HALEX BONUS TERMS)

SEND IN THIS ORDER FORM TO-DAY FOR QUANTITIES OF 3, 4 AND 5 DOZEN TOOTHBRUSHES

All orders under the Halex Ordinary Bonus Plan should be sent in on this special order form. Extra copies are obtainable from your usual wholesaler, or from the British Xylonite Co., Ltd., Hale End, London, E.4.

To your usual wholesaler.....dozen Halex toothbrushes as listed below, together with the free display material and one FREE brush in every half-dozen toothbrushes ordered, in consideration of my exhibiting the Halex Window Display for a fortnight commencing not later than June 30th.

State No. of each required.

Halex No. 1.....dozen @ 6/- per doz.	Supplied in medium only.
Halex No. 2.....dozen @ 7/6 per doz.	.....hard .....medium
Halex No. 3.....dozen @ 9/- per doz.	.....hard .....medium
Halex No. 4.....dozen @ 11/- per doz.	.....hard .....medium
Halex No. 5.....dozen @ 13/- per doz.	.....hard .....medium
Halex No. 6.....dozen @ 15/- per doz.	.....hard .....medium
Halex No. 7.....dozen @ 13/- per doz.	.....hard .....medium

Each brush in a carton. Packed in boxes of half-dozen hard or half-dozen medium, carriage paid.

NOTE.—Only the standard assortment of colours can be sent.

The Halex showcase for displaying your brushes, if required, is included FREE in addition to the Halex Window Display, with first orders for not less than 4 dozen Halex Toothbrushes. Please say whether showcase is wanted. YES..... NO.....

NAME.....

T 8

ADDRESS.....

ORDER FOR YOUR HALEX BONUSES NOW

Is your Bonus order in?
Are your free profits assured? Remember! The Halex Bonus offer closes on June 30th. Order now and you'll be in time.

B (Halex EXTRA Bonus Terms)

SEND IN THIS ORDER FORM TO-DAY FOR QUANTITIES OF 6 DOZEN TOOTHBRUSHES AND UPWARDS

All orders under the Halex Extra-Ordinary Rising Bonus Plan should be sent in on this special order form. Extra copies are obtainable from your usual wholesaler, or from the British Xylonite Co., Ltd., Hale End, London, E.4.

To your usual wholesaler.....dozen Halex Toothbrushes as listed below, together with

the FREE Display Material,
one FREE brush in every half-dozen toothbrushes ordered

PLUS the rising bonus of THREE Halex No. 7's in every six dozen ordered, in consideration of my exhibiting the Halex Window Display for a fortnight commencing not later than June 30th.

State No. of each required.

Halex No. 1.....dozen @ 6/- per doz.	Supplied in medium only.
Halex No. 2.....dozen @ 7/6 per doz.	.....hard .....medium
Halex No. 3.....dozen @ 9/- per doz.	.....hard .....medium
Halex No. 4.....dozen @ 11/- per doz.	.....hard .....medium
Halex No. 5.....dozen @ 13/- per doz.	.....hard .....medium
Halex No. 6.....dozen @ 15/- per doz.	.....hard .....medium
Halex No. 7.....dozen @ 13/- per doz.	.....hard .....medium

Each brush in a carton. Packed in boxes of half-dozen hard or half-dozen medium, carriage paid.

NOTE.—Only the standard assortment of colours can be sent.

The Halex showcase for displaying your brushes, if required, is included FREE in addition to the Halex Window Display, with first orders for not less than 4 dozen Halex Toothbrushes. Please say whether showcase is wanted. YES..... NO.....

NAME.....

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ADDRESS.....

HALEX

TOOTHBRUSHES

We are seven!



The Brushes are made in nine models, retailing from 3/6 to 18/6, all subject to generous discounts giving you a substantial living profit. Can be supplied through your usual wholesaler.

THE "MASON PEARSON" is the only PERFECT Hair-brush made and sold to-day; the reason being that the *only* perfect hair-brushing material—the *black unbleached bristle of the Wild Boar*—is used in its making.

There is no disputing the fact that the "MASON PEARSON" brushes much more quickly than *ANY OTHER* brush; it brushes more efficiently; it cleanses the scalp more gently and thoroughly; it improves the general attractiveness of the Hair, and keeps it at its best. No hair-brush can do more than this.

By selling the "MASON PEARSON" Hair-Brush you enhance your own professional reputation through its good qualities.

MASON PEARSON HAIR-BRUSH

MASON PEARSON SELLING AGENCY LTD.

50 NEW OXFORD STREET, LONDON, W.C.1.

OVER 53% !! This Profit on your outlay is guaranteed to you by
The FLEET Blade



A Sheffield Product from the Molten Steel to the Finished Blade.

Retails at 5 for 7½d.

—also, uncut-making samples given to new stockists.

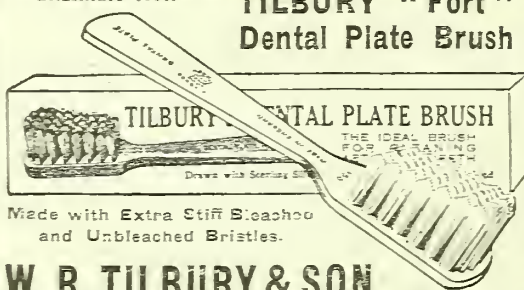
Bonus offered for Window Displays.

Sample and terms from sole makers —

DOMINION STEEL CORPORATION, Ltd.
Fleet Works, Queen's Road, SHEFFIELD.

Established 1880.

TILBURY "Fort" Dental Plate Brush



Made with Extra Stiff Bleached and Unbleached Bristles.

W. R. TILBURY & SON

47 FRAMPTON PARK ROAD, HACKNEY, LONDON ENGLAND

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In Counter Display Boxes

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BRUSH

From all Wholesalers
W. R. Speer & Son
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EST. OVER 100 YEARS.

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Telephone: Holborn 1432.

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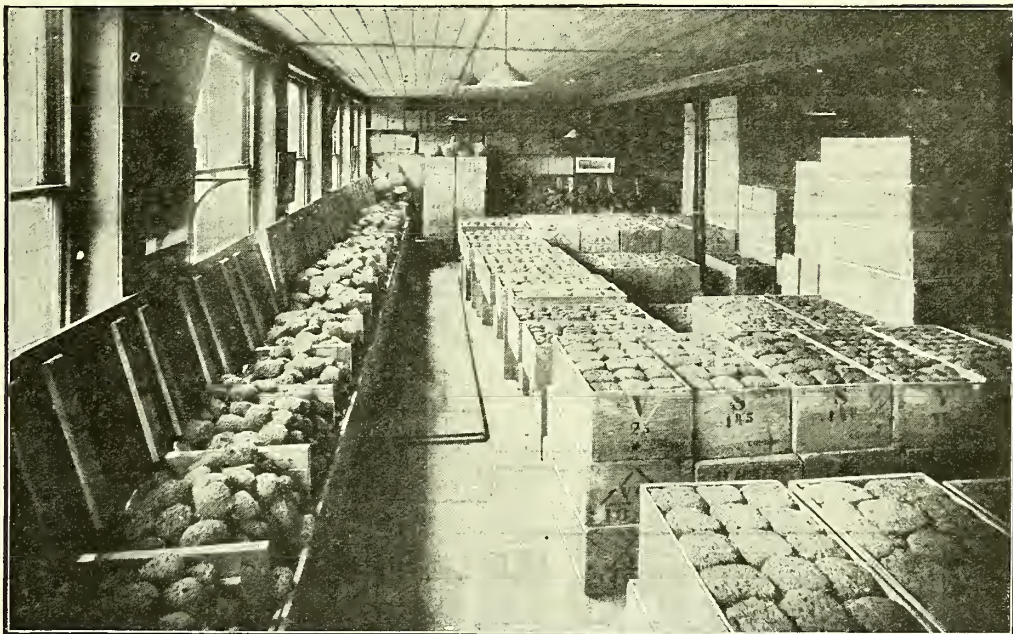
International Sponge Importers Limited,

Cresswell Brothers Branch

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers,
18 & 19 Red Lion Square, London, W.C.1

WITH THE LARGEST STOCKS OF ALL SPONGES IMPORTED DIRECT BY US FROM THE FISHERIES
 AT LOWEST PRICES. WE INVITE COMPETITION.

We would call attention of buyers who are desirous of making a personal selection that we have greatly enlarged our Bin Departments for Honeycomb and Turkey Sponges, and our prices for these goods will be found to be the cheapest in the trade. Buyers unable to visit our Warehouses to make their own selections are invited to send their orders for the quantities they require at prices per dozen and we will give same our prompt and careful attention.



VIEW OF BIN DEPARTMENT (Floor Space 3,000 sq. ft.)

LOOSE GOODS DEPARTMENT.

SPONGES IN SMALL PACKAGES. Fine Turkey. Fine Egyptian and Honeycomb. In 1st, 2nd and 3rd Qualities. Bleached or unbleached (state which in ordering). On strings of 1 dozen pieces, or loose in bags. At per doz.: 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s., 30s., 36s., 42s., 48s., 54s., 60s., 66s., 72s. Bleached Cuban. At per String or Dozen. Wool, Grass, Yellow and Fine. 1s., 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s.

SPECIAL NEW LINES OF THE SEASON



LATEST LINES IN TOILET SPONGES. Packed in Cardboard Boxes. Each Sponge wrapped in Transparent Paper. Dust-proof. Easily handled.

ATTRACTIVE QUICK-SELLING LINES FOR COUNTER OR WINDOW DISPLAY.

1.	Florida Honeycomb Toilet Forms	24 Pieces,	9/-
2.	" " " "	24 "	18/-
3.	" " Half-Forms	24 "	18/-
4.	" " " "	12 "	10/-
5.	Fine Anclote Toilet	12 "	7/6
6.	" " " "	12 "	10/-
7.	" " " "	12 "	12/-
8.	Velvet Toilet, Half-Forms	12 "	7/-
9.	" " " "	12 "	9/-
10.	" " " "	12 "	12/-
11.	" " " "	12 "	15/-
12.	" " Forms	12 "	12/-
13.	" " " "	12 "	15/-
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CAN BE HAD BLEACHED OR UNBLEACHED.

"LAUREL"

Regd.

SAFETY RAZORS

Entirely British Made

Complete Outfit in Case

Retail 6d. each

Silver-plated Holder with one best quality "Laurel" Blade

Sound Profits for Wholesalers & Retailers

"LAUREL" BLADES

Made entirely in Sheffield from Sheffield's Best Razor Steel

4 BLADES FOR 6d.

(1½d. each)



GEO. H. LAWRENCE, LTD.
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Phone: 25571 Wires: "Laurel, Sheffield"

ESTABLISHED TWENTY YEARS AS A SAFETY RAZOR BLADE MANUFACTURER

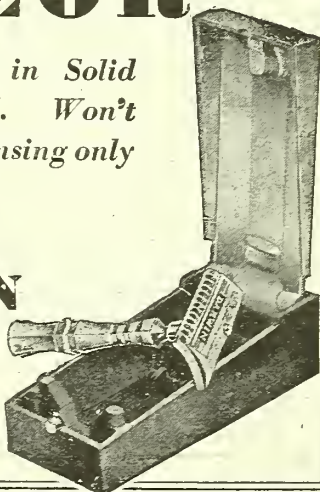
A RECENT TESTIMONIAL

214 Shaves with One "Laurel" Blade
 H. B. FREEMAN, M.A., Canon Residentiary of Bristol

50% Profit on NEW DARWIN RAZOR

*Sells at 7/6 in Solid
 Stainless Steel. Won't
 rust—Needs rinsing only*

The ideal
 companion to
DARWIN
 cobalt steel
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The REAL Eyelash GROWER

"Crescent" EYELASH OINTMENT

Recommended by Oculists and Beauty Specialists. Delights all Customers.

Selling price 7/6 per pot. Trade 6/- per doz. Attractively packed for show purposes in Gold Cartons of half-a-dozen.

Send now to—THE CRESCENT PREPARATIONS CO.
4 Woodlands Rd., LONDON, S.W.13 Phone: Putney 2149

TATCHO Sample Size 6^d

THE
HAIR RESTORER

6 Bottles in Case for
 Counter Display,
 4/- PER DOZ.

PROMOTES, PRODUCES, 1/3 size .. 12/6 per doz.
 BEAUTIFIES THE HAIR 2/3 size .. 26/- per doz.

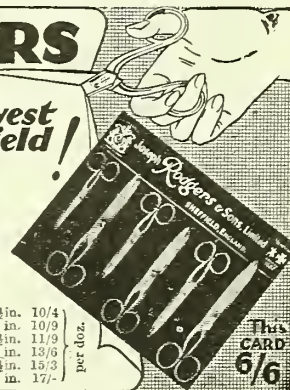
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RODGERS QUALITY

—and the lowest
 price in Sheffield!

Rodgers Scissors have always sold on quality, now they sell on price as well. The card illustrated costs you 6/6 and the scissors sell at prices ranging from 1/4 to 2/2, showing you a net profit of 3/3 per card. Buy British and help to reduce unemployment and taxation.

Order Card No. E. 7174/C.D., and see how the scissors sell themselves.
Joseph Rodgers & Sons, Ltd.
 Cutlery to His Majesty,
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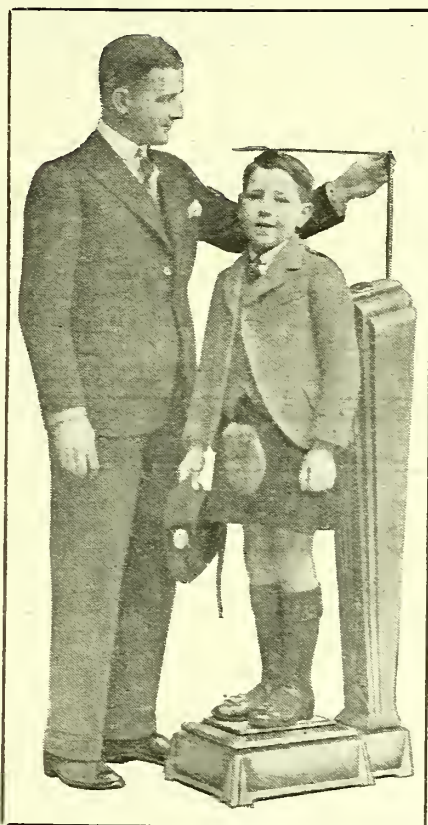
THIS
 CARD
 6/6

THE "DUAL" Autoway

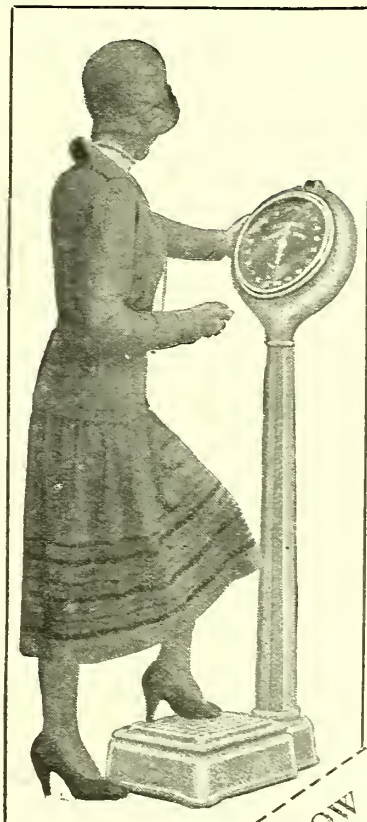
A discreet machine which enables ladies to be as secretive about their weight as they are about their age

AUTOWAY
BAROMETER
of HEALTH

AUTOWAYS



Catch the eye of the passers-by to remind them of their doctor's injunction, "weigh yourself regularly." To attract them to your shop and to increase your trade while paying their way—that is the duty of these handsome machines.



The "Dual" provides an excellent opportunity for making friends of your customers—to weigh and measure their children indicates
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Autoway Co.

13 Wellington St., GLASGOW

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To AUTOWAY CO., 13 Wellington St., GLASGOW

Without placing me under any obligation to buy, please send details of Autoway models and particulars of your extended payment terms.

NAME.....

ADDRESS.....

A RECORD SELLING LINE!

The Latest Invention in Safety Razors

BLADES:

30 Blade Card 5/-
60 Blade Card 10/-
120 Blade Box 20/-

Retail Price
in England
4 for 1/-

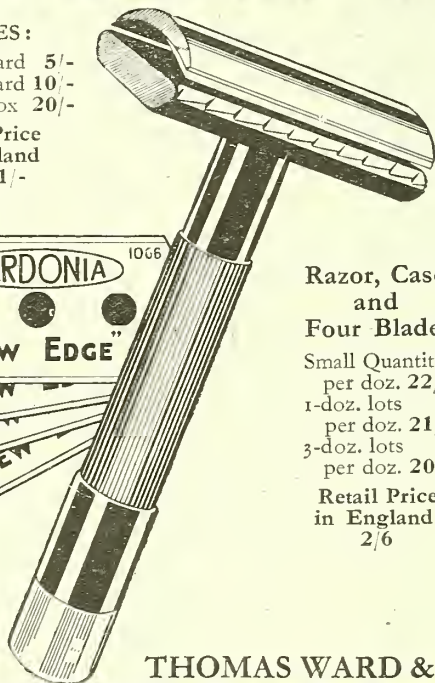


Razor, Case,
and
Four Blades

Small Quantities
per doz. 22/6
1-doz. lots
per doz. 21/-
3-doz. lots
per doz. 20/-

Retail Price
in England
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Patent
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ORDER
NOW!



Reasons for its Huge Success:

The patented non-metallic guard makes all the difference. No metal teeth to irritate the skin. Special clearance prevents clogging of hair and soap. Serrations on guard bend hair before cutting. Blade then left free to do its work. It gives a 100% shave every day. Every razor and blade guaranteed.

Generous supply of Window and Counter Cards with every order.

WARDONIA

"NEW EDGE" RAZORS & BLADES

Sole Makers:

THOMAS WARD & SONS, LTD., Wardonia Works, Sheffield, Eng.

NEW!
THE MYATT DAYMARK RAZOR



made for the
Million Users of
MYATT DAYMARK BLADES

From all
Wholesalers.

Sole Manufacturers:
W.J. Myatt & Co. Ltd.
BIRMINGHAM

**2/6 RETAIL
DISCOUNT
25%**

E.69.D

The British Blade
that sells on
Quality



The consistent Quality of "Eclipse" Blades is supported by a Money-back Guarantee of Satisfaction in every packet.

**3
FOR
1/-**

Minimum trade discount 33 1/3%.
Order from your usual wholesaler, or direct from the Sole Manufacturers—

**5
FOR
1/8**

JAMES NEILL & Co. (Sheffield), Ltd., Composite Steel Works, SHEFFIELD

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BROTHERS LIMITED

184 TO 192 GOSWELL ROAD, LONDON, E.C.1.

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will give you up-to-date details as to the following exclusive lines of our manufacture, and of a host of Druggists' Sundries made in our factories or controlled by us.

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| "Nerissa" Puffs, Swansdown, Wool Velours | "Marathon" Fibre Flesh Gloves |
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| "Balmoral" " " " | "Mayflower" " " " " |
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Solport's Goods are Good Goods.

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SALES BIGGER THAN EVER

with this new display!

The Popular
Priced
Quick Selling
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MEDIUM SIZE

1 doz.
8/- per doz.
6 doz.
7/9 per doz.
12 doz.
7/6 per doz.



Special Bonus
Terms until
AUGUST of
14 to the dozen

LARGE SIZE

1 doz.
12/- per doz.
6 doz.
11/9 per doz.
12 doz.
11/6 per doz.

Quantity Prices given on Assorted Sizes
WE GUARANTEE EVERY STICK

To convince you that Head-clone is the best value offered to-day, a FREE STICK will be sent to any pharmacist.

THE HARRY A. PENNEY CO. LTD.
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“ DISTRIBUTORS OF GOOD MERCHANDISE ”

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ANTISEPTIC & GERMICIDE

(Trichlorophenylmethylidosalicyl) in H₂O.
THE ONLY PERFECT ANTISEPTIC AND GERMICIDE

T.C.P. is a synthetic chemical of the "Organopolyhalogens" class. It is not caustic and it is a perfect disinfectant of the alimentary tract. It is microbicidal and germicidal, analgesic and keroplastic. It acts as a chlorinating agent of the bacterial proteins and as an oxidising agent of bacterial toxins. It does not attack complex tissues. It rapidly permeates the whole system, acting not only on the surface but also below the surface where the blood may be septic. Promotes smooth granulation and rapid healing.

Strongly recommended for counter prescribing.

T.C.P. sells at 1/3, 3/-, 7/6, 15/-, 25/- and 50/- P.A.T.A.

T.C.P. B³ COLLOIDAL EMULSION

Specially recommended for internal use in all forms of Dysentery and affections of the Liver, Arteriosclerosis, Gastro-enteritis, Hypertension, Hyperchlorhydria. It is a stabiliser of the nervous system. It is sedative and gives relief from insomnia, without the danger attending the use of barbituric drugs.

RETAIL 4/- per 8oz. Bottle.

T.C.P. OINTMENTS

Of various strengths. Do not decompose or become rancid. The addition of colloidal mineral also permits evaporation from the surface.

No. 33 for *Varicose Eczema, Eczema, Piles, Ringworm, Cuts, Burns, etc.*

No. A.270 for *Eczema, Bruises, Herpes, Acne, Adenitis, etc.*

No. B.360 for *Purulent Eczema, Tumours, Ulcers, Lupus, Psoriasis, etc.*

RETAIL per jar, 1/3, 2/6, 4/-, 7/6, 14/- and 28/-.

T.C.P. DENTAL EMULSION

Contains the antiseptic virtues of T.C.P. with a powerful cleansing base. Deliciously flavoured.

RETAIL 1/3 per tube.

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(Regd. Trade Mark)



OF COURSE!

PRICES OF BULK AND PACKED OINTMENTS
UPON APPLICATION.

ALL DRUGS AND PACKED
MEDICINAL AND TOILET LINES

MANUFACTURERS OF
"LAXAGAR" EMULSION
"VUNDI"

PEROXIDE OF HYDROGEN
"VUNDI" LYSOL ETC., ETC.

ROBERT BLACKIE

SHEN WORKS,
TOWER BRIDGE RD.,
LONDON, S.E.1

Telephone: HOP 2422

Telegrams:
"USHENSPUNA
LONDON."

CUSTOMER'S OWN FORMULÆ MADE AND "SPUN"

Sell 'SECTO'

*for the
destruction
of all
Insect Pests*

Secto has as its foundation a Super Quality Powder and is packed in hermetically sealed tins. Always gives satisfaction.

For the House or Garden.
For Poultry Yard.
For Factories and Works.
For Ships, &c.

The CHEMIST'S Line.
Excellent Profits.
Forceful Showmatter.



	4d	6d
IN TINS	1/-	3/-
RETAIL	5/-	10/-

CUPAL LTD Blackburn

Telephone: Blackburn 6073

Telegrams: "Cupal, Blackburn"

SANDALWOOD OIL

*Distilled from SANTALUM ALBUM, linn.
at the MYSORE GOVT. FACTORIES*



MINIMUM 90%
ACTUAL SANTALOL

For further information apply

TRADE COMMISSIONER
for MYSORE *in* LONDON
GRAND BUILDINGS
TRAFALGAR SQ, W.C.2

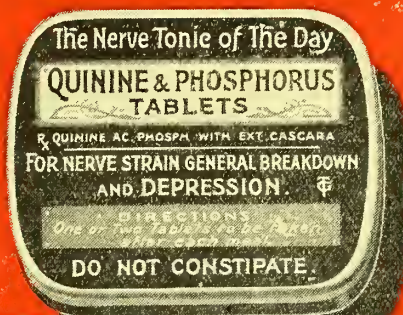
Telephone : Gerrard 4412

Code : Bentleys

*Sole Agents for America : Messrs. W. J. BUSH & Co., Inc., 370 Seventh Avenue, New York.
Sole Agents for Canada : Messrs. W. J. BUSH & Co. (Canada), Ltd., 432 St. Helen St., Montreal.*

"SURE SHIELD" PRODUCTS

A popular price Series



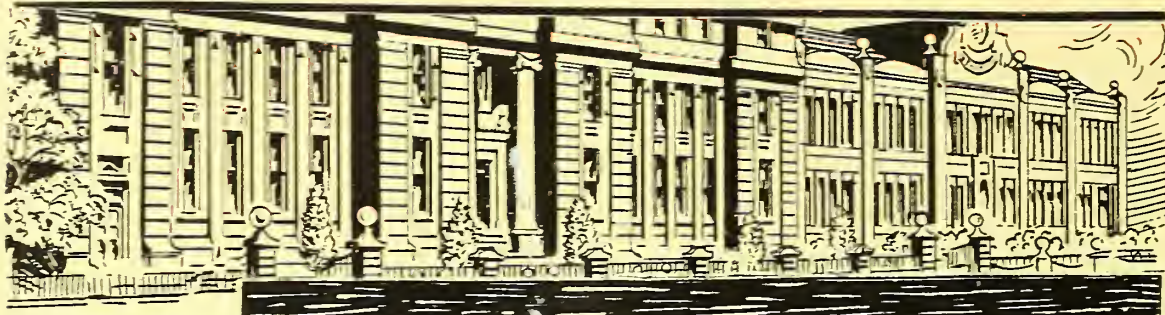
THOS. GUEST & CO. LTD.

Manufacturing Chemists

CARRUTHERS ST., MANCHESTER
London Depot, 1, Swan St. Minories



THE HOME OF THE **VENO PRODUCTS**



£3 MINIMUM PARCEL

The minimum combined parcel for Germolene Brand Aseptic Ointment, Dr. Cassell Brand Tablets, Veno Brand Lightning Cough Cure, to ensure $2\frac{1}{2}\%$ discount and the extra 5% for window display allowance, is £3 carriage paid. These parcels can either be obtained direct or through your wholesaler. Smaller quantities must be obtained from your wholesaler as before.

NOTICE

**FROM JULY 1st, 1931, ALL
ORDERS FOR VENO DRUG
CO.'S PRODUCTS SHOULD BE
ADDRESSED TO**

VENO DRUG CO. [1925] LTD

Telephone - 1961 Trafford Park
Telegrams - Beveno, Manchester

**CHESTER ROAD
MANCHESTER**

Trade follows the Ad.

The absolute necessity for increasing British trade — Home and Export — is daily being emphasised by statesmen, business men and bankers.

It is nowadays generally recognised that advertising in a reputable trade journal, with a genuine appeal to actual buyers like

THE CHEMIST & DRUGGIST

is the most EFFECTIVE and LEAST EXPENSIVE way of selling goods. In the case of THE CHEMIST AND DRUGGIST the appeal is universal. Besides having as regular subscribers all the worth-while firms—manufacturing, wholesale, export and retail—in the United Kingdom, the subscription list includes the names of thousands of responsible firms buying and selling drugs, chemicals, perfumery, druggists' sundries, and allied products in the following countries overseas:

BRITISH EMPIRE:

Australia, British Columbia, British Guiana, British West Indies, Burma, Canada, Ceylon, Cyprus, Fiji Islands, Gibraltar, Gold Coast, Hong Kong, India, Jamaica, Kenya Colony, Malay States, Malta, Newfoundland, New Zealand, Nigeria, North Borneo, Rhodesia, St. Helena, Sierra Leone, Trinidad, Uganda, Union of South Africa and Zanzibar.

EUROPEAN CONTINENT:

Austria, Belgium, Bulgaria, Czecho-Slovakia, Denmark, Estonia, Finland, France, Germany, Greece, Holland, Hungary, Italy, Latvia, Norway, Poland, Portugal, Roumania, Russia, Serbia, Sicily, Spain, Sweden, Switzerland, Turkey and Yugo-Slavia.

CENTRAL AMERICA and SOUTH AMERICA:

Argentina, Bolivia, Brazil, Chile, Costa Rica, Cuba, Guatemala, Panama, Peru and Salvador.

AFRICA:

Canary Islands, Congo (Belge), Egypt, Portuguese West Africa, South West Africa Protectorate and Sudan.

NEAR EAST and FAR EAST:

Arabia, Asia Minor, China, Dutch East Indies, Japan, Manchuria, Mesopotamia, Palestine, Philippine Islands, Siam and Syria.

UNITED STATES OF AMERICA.

MEXICO.

Thus wherever the British Flag goes there also is THE CHEMIST & DRUGGIST, and the point to bear in mind is that it is sent regularly at the request of eager buyers of Drug-trade commodities who prepay 20/- to have it delivered to them weekly for twelve months. The firm with Drug-trade merchandise to dispose of, therefore, which is not advertising in THE CHEMIST & DRUGGIST is losing golden opportunities.

All particulars regarding available space, special positions, coloured insets, &c., from:

THE PUBLISHER

THE CHEMIST & DRUGGIST

28 ESSEX STREET, STRAND - - LONDON, W.C.2

BRANCH OFFICES:

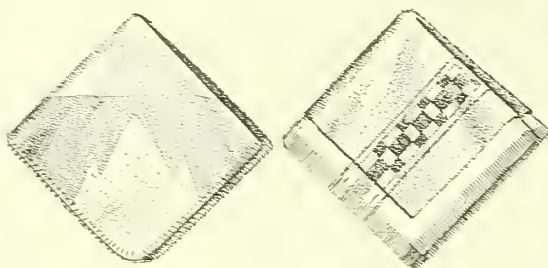
49 County Buildings, Cannon Street,
MANCHESTER.

15 Waterloo Street,
GLASGOW.

54 Foster's Buildings, High Street,
SHEFFIELD.

And MELBOURNE and SYDNEY, AUSTRALIA.
AUCKLAND, NEW ZEALAND.

TOOGOOD'S WASHING SQUARES



SEASON 1931



WRITE FOR PRICE LISTS TO
**WILLIAM TOOGOOD
LIMITED**

77 SOUTHWARK STREET
LONDON, S.E.1



7/-
per
Gross.

RETAIL
1/-
per pkt.
of 12 Blades.

Neatly packed for counter display
ASK FOR FREE SAMPLES
Show matter on application

Obtainable from all wholesalers or
direct from:—

A. FRANKS & CO.
11 Bartlett's Buildings
Holborn Circus, London, E.C.4

**The Skin
Protection
Problem Solved**

ROZALEX
KEEPS HANDS CLEAN

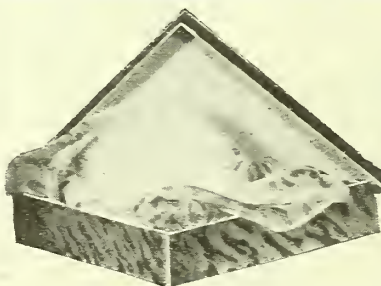
Wherever there's Dirty Work to do, ROZALEX is needed. You only need to display—it sells itself and secures repeat orders. Neatly packed in attractive tubes. Retailing 1/- Tins 1/6. Shows excellent profits. Your usual Wholesaler can supply.

Free Samples, Literature, and Terms on request to
ROZALEX LIMITED, Yorkshire House, Cross St., MANCHESTER

DRIED MILK

Large buyers of Full Cream, Half Cream, Separated, Milk Sugar, Whey Powder, Soluble Milk Casein, are invited to apply for samples and quotations, stating probable requirements. Eight Creameries in Dorset, Somerset and Wilts.

PRIDEAUX'S LTD., MOTCOMBE, SHAFTESBURY, DORSET



**Powder
Puffs
de
Luxe**

Wholesale and Shipping Houses only.

Manufacturers:—

WILLIAMSON BROS. LTD.
177, SOUTHWARK BRIDGE ROAD, S.E.1

**DO
YOU
STOCK
URODONAL?**

**NATIONAL ADVERTISING
IS TELLING THE PUBLIC
TO TAKE**

URODONAL

FOR RHEUMATISM

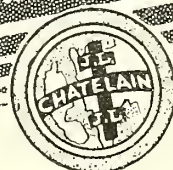
**3/- 5/- and 12/- PER BOTTLE with a
LIBERAL DISCOUNT FOR YOU!**

HOW WE HELP YOU FREE!

Colourful and effective Display Cards
for your windows and "reason-why"
literature for your counter is waiting
for you! Sent FREE with first order.

SPECIALLY FAVOURABLE TERMS
from the Sole Concessionaires:-

SPENCER & CO.
20, QUEEN ST. HAMMERSMITH, W.



RAIMES, CLARK & CO., Ltd.

ESTABLISHED 1816.

**Drugs, Chemicals, Galenicals
Malt Extract, Gelatine Capsules
Etc., Etc.**

*Manufacturers of Potassium Iodide, Resublimed Iodine
and Iodine Preparations.*

Proprietors and Manufacturers of

MACLEAN'S REVALENTA

The Perfect Food for Children, Adults and Invalids.

RAIMES, CLARK & CO., Ltd., Manufacturing Chemists
and Wholesale Druggists, **EDINBURGH**

Telegrams : "Raimes, Edinburgh."

Phones : LEITH 893, 894, 895.

EDUCATING THE PUBLIC

One of the most effective pieces of public
propaganda on behalf of the chemist is the
booklet

THE BUSINESS OF A CHEMIST AND DRUGGIST

It sets forth clearly and concisely the functions of a
pharmacist, his training, the restrictions of his
trading and other matters of especial interest to the
public at the present time.

Supplies of these booklets at the rate of

50 copies for 2/9

are obtainable from :—

THE CHEMIST AND DRUGGIST
28 ESSEX ST., STRAND, LONDON, W.C.2

BRANCH OFFICES:

Manchester, Sheffield, Glasgow. Melbourne and Sydney
(Australia). Auckland (New Zealand).

WESSANEN'S PRIME COCOA BUTTER

—Pure Cocoa Butter

RICE FLOUR & GROUND RICE

—Granulated Rices all qualities

Send your enquiries to :

A. PRESCOTT
12 BROOM LANE
BROUGHTON PARK
MANCHESTER

BLACKWELL, HAYES & CO., LTD.

FOR
50 YEARS
Specialists in
Flavours

Fruit Essences
and
Harmless Colours

Bulk or Packed

ALL PRODUCTS GUARANTEED
TO CONFORM TO THE FOOD
AND DRUGS ACT

SCAT Spray INSECTICIDE

For FLIES & SUMMER PESTS

	Wholesale.	Retail.
1 gallon tins	10/-	15/- each
$\frac{1}{2}$ gallon tins	4/6	8/- ..
2 pint tins	3/-	4/6 ..
1 pint tins	1/10 $\frac{1}{2}$	2/6 ..
8 oz. bottles	1/-	1/6 ..
SPRAYS	1/6	2/- ..

Free Containers. Carriage Paid.

Large quantities are being sold
through other trades.

This should be **YOUR** line

FEATURE

one of the

**Blackwell, Hayes
Series**

of

**Own Name Packed
Goods**

*Attractively packed at
competitive prices.*

SPECIAL RANGE OF CONCEN-
TRATED MIXTURES MADE TO
PROVED EFFICIENT FORMULAE

MOOR ST. AND ALBERT ST., BIRMINGHAM

'Phone : Central 1267.



Wires, Blackwelaze, Birmingham.

Licoricine

ACTS LIKE MAGIC

AN OLD-FASHIONED BUT REALLY EFFECTIVE REMEDY FOR

**COUGHS, COLDS, INFLUENZA
AND BRONCHIAL TROUBLES**

Prices : 10 $\frac{1}{2}$ d., 1s. 3d. and 3s.

TERMS

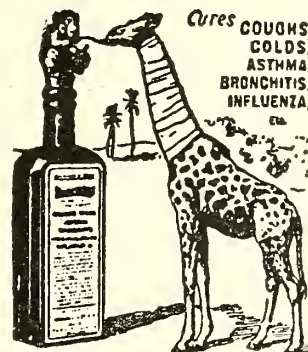
10 $\frac{1}{2}$ d. size	8/6 doz.	Less 5% discount on £6 orders.
1/3	" 12/- "	
3/-	" 27/- "	Carriage paid on orders of £2 and over.

**MANDALL & CO. LTD., 17/23 Stepney Road
Newcastle-on-Tyne.**

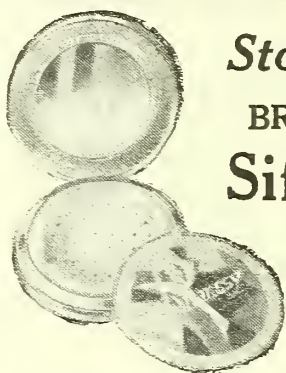
LIVERPOOL BRANCH :
130/132 RICE LANE, LIVERPOOL. (Telephone : 59 Walton.)
Distributing Depot for Lancashire and Cheshire.

**THE
WINTER
PROFIT
MAKER**

Licoricine
ACTS LIKE MAGIC



"No case too bad!"



Stock & Sell BRITISH MADE Sifter Box

now made in
attractive colours

28/- per doz.

Retail 3/6 ea. P.A.T.A.

BATH POWDER CONTAINER

36/- per doz. Retail 4/6 each. P.A.T.A.

Ask for Illustrated List.

Chaussy
POWDER BOX

COMPANY, LIMITED,

11, Bartlett's Buildings, Holborn Circus,
London, E.C.4.

HEPATEX, P.A.F.

A new concentrated solution of the Liver fraction, effective in the treatment of Pernicious Anæmia.

Presented in ampoules of 5 c.c. for intramuscular or intravenous injection.

Price 6/- per Ampoule

(subject to usual discount)

EVANS SONS LESCHER & WEBB LTD.

YOU MAY WANT TO

Buy a Business, Sell a Business, Secure an Agency, Engage an Assistant, Procure a Situation, or Sell Odd Lots of Chemists' Requisites

If so, you can do it quickly and satisfactorily by an advertisement in

THE CHEMIST & DRUGGIST SUPPLEMENT

This is the Tariff:

Businesses Wanted and for Disposal, Premises to Let, Goods for Sale, and Agencies; 6/- for 50 words; every additional 10 words or less, 6d.

SITUATIONS OPEN: 6/- for 40 words; every additional 10 words or less, 6d.

SITUATIONS WANTED: 2/- for 18 words; every additional 10 words or less, 6d.

Legal Notices, Tenders, Auctions, and all specially spaced announcements, 1/3 per nonpareil line (12 lines=1 inch single column).

Miscellaneous (Wholesalers') Section, for odd and second-hand lots; 10/- for 60 words; 1/- for every additional 10 words or less.

EXCHANGE COLUMN (for Retailers, etc.). **Twopence** per word, minimum 2/-

BOX NUMBER.

In each case replies may be addressed to a registered number or non-de-plume, c/o this Office, at a charge of 1/- extra for each advertisement.

Address all communications to
THE PUBLISHER, THE CHEMIST AND DRUGGIST, 28 Essex Street, London, W.C.2.

Telegrams: "Chemicus, Strand, London" (2 words).
Telephone: Central 6565 (8 lines).

Push these four SOUNDLY ESTABLISHED chemists' lines

GENOZO
BRAND
TOOTHPASTE

GENASPRIN
THE SAFE
BRAND OF ASPIRIN

SANATOGEN
THE TRUE TONIC FOOD

FORMAMINT
WULFING
BRAND

Because —

Genatosan Ltd. give you a fair deal and their products are recognised as real "chemists' lines." You are supported by big-scale advertising throughout the year and all Genatosan lines are approved and prescribed by the medical profession. You can always count on repeat orders for Genatosan products—for they do what is claimed of them. And, above all, Genatosan products offer you an uncommonly high percentage of profit, particularly when bought on direct cash terms.

And remember! Whenever you wish to make a special window display, colourful and up-to-date material will gladly be sent on request.

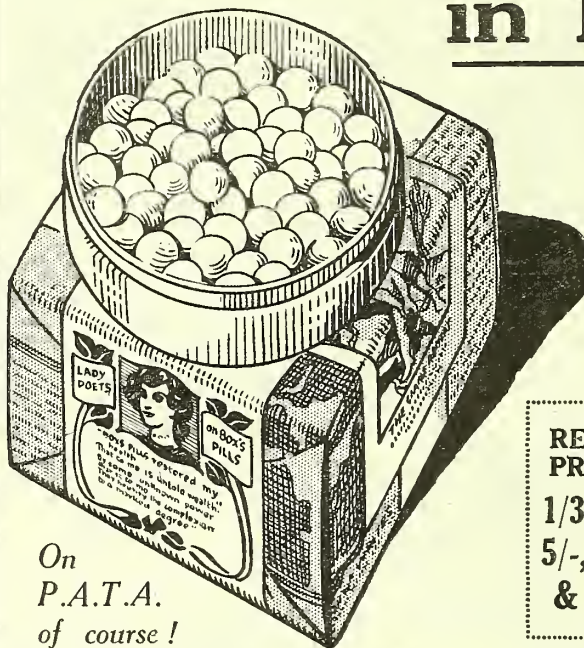
GENATOSAN

GENATOSAN LTD., LOUGHBOROUGH, LEICESTERSHIRE.

Telephone: Loughborough 292.

Telegrams: "Genatosan, Loughborough."

There's Money for You in Box's Pills!



On
P.A.T.A.
of course!

RETAIL PRICES

1/3, 3/-,
5/-, 12/-
& 22/-

You have probably been asked for Box's Pills already. Next time the demand arises don't disappoint your customer—have Box's Pills ready to sell. People who know Box's will not be "put off" with substitutes—and you can rely upon users recommending their friends to come to you too! It pays to stock Box's Pills. Get them from your wholesaler.

Display material that really earns its window space—direct from Plymouth.

W. H. BOX
The Giant Pill Manufactory,
KING ST., PLYMOUTH



Prunol old-style Pastilles will still be available for those members of the Public who already use and like them. New Pastilles will be plainly labelled "CRYSTALLISED."

NOW CRYSTALLISED

This new Prunol product is destined to create sensations in the proprietary laxative market. Prunol Crystallised Pastilles have the full, rich flavour of delicious fruit. They relieve Constipation naturally and surely, without the slightest upset. National Press and sampling campaigns will cause instant demands. Order now! Retail price 1/3. Chemists' price 11/3 dozen. Bonus of one tin to every dozen on initial orders sent DIRECT with name of wholesaler. Display matter, bottle-wrappers, etc., free on request:

PRUNOL PRODUCTS LIMITED
21 Cockspur St., London, S.W.1

PRUNOL CRYSTALLISED PASTILLES

BRIMSTONE & TREACLE

Flowers of Sulphur casing with a Treacle Toffee centre. The old remedy in a palatable form

In Popular 2d. Sticks.

BARLEY SUGAR

(GLUCOSE OR CANE SUGAR)

*as recommended by
the Medical profession*

In Popular 2d. Sticks.

also in 1/- & 1/3 Bottles.

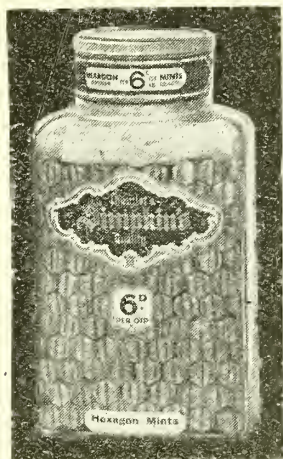
4 display
bottles

1-17-6

profit

1-2-6

Subject 2½%
varying to 12½% on 20
bottle orders



*Sold to
Chemists
only*

HEXAGON MINTS

*Famed for unique display
and flavour*

SUMMER SPECIALITY HEXAGON (Glycerine) FRUITS

*Genuine Fruit centres. Attractively
packed in rainbow design*



Write for Price
List to the Pioneers
of the most
attractive
Chemists' Confectionery
ever manufactured

A. L. Simpkin & Co. Ltd.

Chemists' Confectioners

Carfield Wks., Sedan St., Sheffield

for Durham, North Yorks & Northumberland: T. SWALES, Butts Ct., Leeds

DRUGS, CHEMICALS, GALENICALS, PHARMACEUTICAL PREPARATIONS, SPIRITUOUS PREPARATIONS (IN BOND, DUTY FREE), SURGICAL INSTRUMENTS, DRESSINGS, DRUGGISTS' SUNDRIES AND PACKED GOODS • Complete Catalogues in English, Portuguese and Spanish upon application • **THE HOME TRADE SPECIALLY CATERED FOR. DELIVERY BY OUR OWN MOTORS** • **SOLE PROPRIETORS OF GOLD MEDAL CREAM EMULSION OF COD LIVER OIL WITH HYPOPHOSPHITES** • Send for Samples and Prices •

EXPORTERS TO ALL



PARTS OF THE WORLD

• • • **BAISS BROTHERS & CO. LTD.** • • •

OFFICES, WAREHOUSE & LABORATORIES: Grange Rd., Bermondsey, S.E.1

Druggists' Sundries & Surgical Instrument Depot: 41-43, GRANGE WALK, LONDON, S.E.1

Phone: BERMONDSEY 1301 (3 lines) - Telegrams: IPEGAC, LONDON - CODES: BENTLEYS, A.B.C.—5th EDITION -

**YOU TAKE
NO RISKS**

WHEN YOU SEND YOUR
D & P TO

PHOTOPRESS

10 JOHNSON'S COURT

FLEET STREET

LONDON, E.C.4

**A
CENTURY'S
EXPERIENCE**



**CALENDER SPREAD RUBBER ADHESIVE
PLAISTERS**

OF EVERY DESCRIPTION

Samples and prices gladly sent on request to—

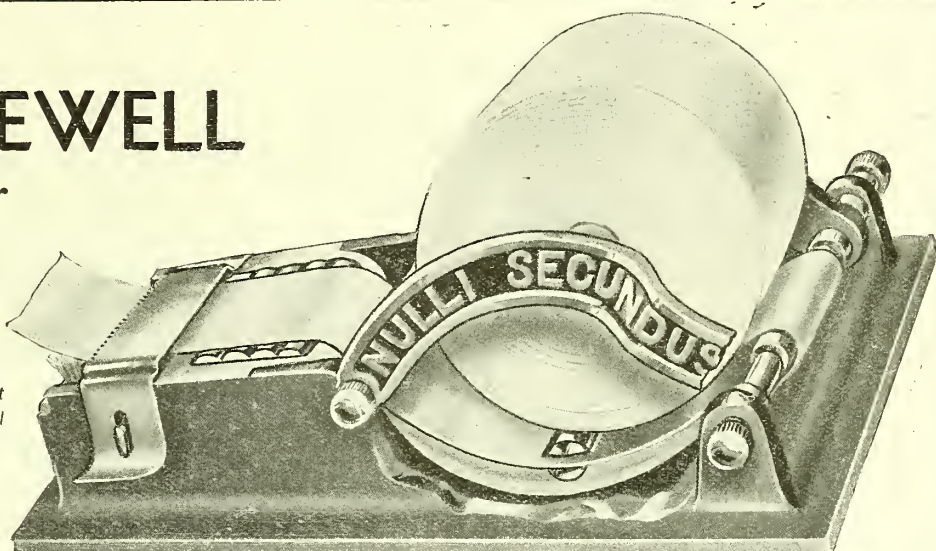
WILLIAM MATHER, Ltd.
DYER STREET, HULME,
MANCHESTER

Incorporating MACE & HALDANE, Ltd.
39 Mitchell St.
London, E.C.1

The BRIDEWELL Sealer

PRICE 22/-

Carriage paid in Great Britain on all but small post orders.



FOR SPEEDY AND ATTRACTIVE PACKING



REGISTERED

TRADE MARK

The Latest and Best Machine on the market. This machine is designed to take any number of coils of tape up to 3 ins. wide, wound glue *inside or outside*. It possesses a brush moistening device and is beautifully finished. It is a British product all through, and is indispensable.

SAMUEL JONES & CO. LIMITED
BRIDEWELL PLACE ——— LONDON, E.C.4



"EXCHANGE" BRAND CALIFORNIAN

OIL OF SWEET ORANGE

AND

DISTILLED OIL OF LEMON

QUALITY - FLAVOUR - PRICE

WHEELER & HUSKING LTD.

26 GREAT TOWER STREET, LONDON, E.C. 3

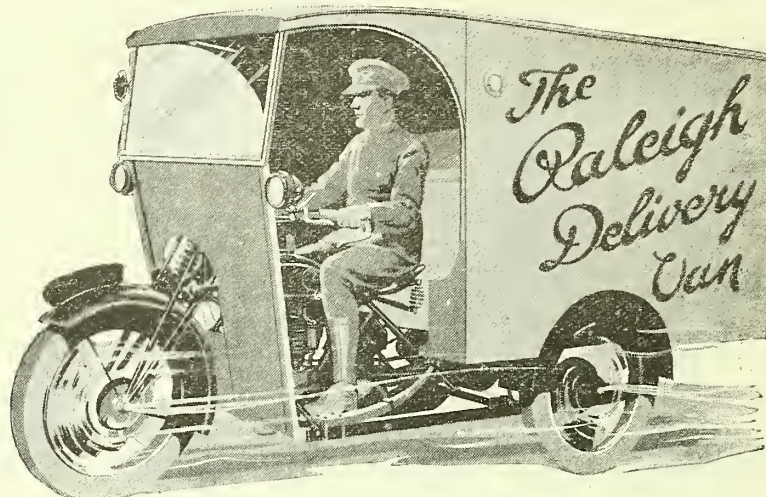
TELEPHONE: ROYAL 2777

EUROPEAN DISTRIBUTORS FOR
CALIFORNIAN FRUIT GROWERS EXCHANGE
PRODUCTS DEPARTMENT
ONTARIO, CALIFORNIA





RALEIGH LEAD THE WAY FOR YOUR TRADE EXPANSION



The
**CHEAPEST DELIVERY
 PROPOSITION**
 ever offered to Chemists!

Car Service at Motor-Cycle Cost

The 75 gns. Motor Delivery Van is here!—Another great achievement by Raleigh, the pioneers of economical transport. Tax, Petrol, Oil, Insurance costs all halved—an astonishing all round saving and at a phenomenally low price made possible only by highly organised production and the vast resources of the vast Raleigh organisation. The acme of simplicity, unrivalled in reliability and efficiency, it is ideal for everyone who wants rapid transport of loads up to 5 cwts.—the certain way to make your business pay!

Does 60 m.p.g. of petrol and 1,500 m.p.g. of oil. 49 cubic feet carrying capacity—9 cubic feet more than that of any other 5-cwt. vehicle. Lower depreciation, lower maintenance, and only 3 tyres to wear.

TAX --- £4

Insurance £7 10s.

Nippy and speedy in traffic. Can be driven by a lad of 16. Easily started and controlled. Possesses 3 speeds and reverse and turns in practically its own length. Air-cooled engine: cannot freeze or boil.

ONLY 75 GUINEAS
 Ex-Works

OR BY EASY PAYMENTS

**RALEIGH
 DELIVERY VAN**

Demonstrations arranged FREE anywhere

Send for details of this marvellous money-making proposition which will more than save its cost in a year.

THE RALEIGH CYCLE CO., LD., NOTTINGHAM



A Profitable Reflection

To Chemist and customers alike "Cornol" Brand Corn Remover affords a profitable and comfortable reflection.

To your Customer because

CORNOL

BRAND

CORN REMOVER

does what is claimed for it—speedily and efficiently at most reasonable cost.

To the Chemist because it always gives satisfaction. It occupies a minimum amount of space either for display or in stock—it does not stay on the shelves—is in constant demand and when displayed sells amazingly well.

Skilful, sustained, and carefully planned advertising maintains its position as one of the Trade's best sellers.

In addition, the big bonus offer now open makes the profits extremely attractive. Briefly, we send you 4 doz. Cornol Corn Remover and charge you for 3 doz. Thus ensuring a profit of 45 per cent. on selling prices or 83 per cent. on cost. An outlay of £1 12s. 9d. means an actual profit of £1 7s. 3d. —nearly 7d. profit on every bottle.

Ensure your share of this business while the matter is before you. A post card now will secure this **BIG BONUS ORDER** by return. We will include some very striking advertising matter free.

THOMPSON & CAPPER WHOLESAL LTD.
MANESTY BUILDINGS, COLLEGE LANE, LIVERPOOL



The Sterenema

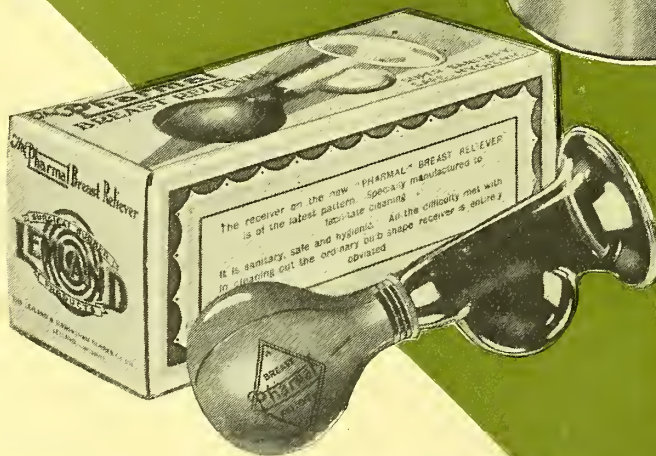
Made from LEYLAND quality rubber, seamless and fitted with glass fittings, and guaranteed to be sterilizable in entirety.

Wholesale Price, 44/- doz.
Minimum Retail Selling Price, 5/5 each.

The Pharmena

Made from LEYLAND quality rubber, seamless, guaranteed not to crack or split. In three colours red, green, and black, polished.

Wholesale Price, 32/- doz.
Minimum Retail Selling Price, 4/- each.



On the P.A.T.A.

The Pharmal Breast Reliever

Made from specially annealed glass and finest para rubber. Thoroughly safe, sanitary and hygienic.

Wholesale Price, 28/6 doz.
Minimum Retail Selling Price, 3/6 each.

Obtainable through all
Wholesale Houses

SURGICAL RUBBER

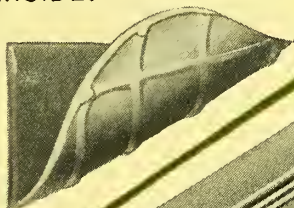
LEYLAND
PRODUCTS

The Leyland & Birmingham Rubber Co., Ltd.

Pharmal

HOT WATER BOTTLES

RUBBER REINFORCED BY
STRENGTHENING RIBS ON
INSIDE.



WHY PHARMAL IS BETTER

1. The Pharmal Moulded Bottle is made from the finest quality rubber of extremely high tensile strength.
2. It is reinforced. Every square inch is strengthened with a rib of rubber, so preventing sagging when full.
3. The sides are flat and solid, giving greater strength where wear and usage are likely to damage the bottle.
4. A wide sensible funnel allows hot water immediate entrance ; easy filling and no risk of scalding. Guarantee seal attached to every bottle.

Available in Red, Green, Blue, Pink ; also Red and Blue Marble, Blue and Green Marble, Green and Red Marble and Jazz.

SURGICAL RUBBER
LEYLAND
PRODUCTS

The Leyland & Birmingham Rubber Co., Ltd.

Chemists' Sundriesmen & Wholesalers
could do no better than
entrust their enquiries for

Chemists' Rubber Sundries

to

The Leyland & Birmingham Rubber Co., Ltd.,
Grand Hotel Buildings, Trafalgar Square, W.C.2.

Works: Leyland, Glasgow, Mitcham, Preston, Dublin.

Branches:

BIRMINGHAM: 124, New Street.

MANCHESTER: 29, Brown Street.

CARDIFF: Harrowby Street "Docks."

NEWCASTLE-ON-TYNE: 36, Collingwood Street.

GLASGOW: 32, Miller Street, C.1.

LIVERPOOL: Wellington Buildings, The Strand.

DUBLIN: 83, Middle Abbey Street.

LEEDS: 7, South Parade.

PRESTON: Palatine Branch, Pole St. Mills.

JOHANNESBURG: Barsdorf's Buildings.

CALCUTTA: Hongkong House, Council House Street.

BUENOS AIRES: Calle Carlos Pellegrini No. 928.

Leyland Surgical Products

Obtainable through all Wholesale Houses:

Fabric Hot Water Bottles.
Pharm. Moulded Hot Water Bottles.
Air Cushions.
Douches.
Bed Pans.
Air Beds and Pillows.
Water Beds and Pillows.
Sponge Bags.
Bathing Caps.
Household Gloves.
Cut Sheet Rubber Gloves.
Umbilical Belts.
Ice Caps.
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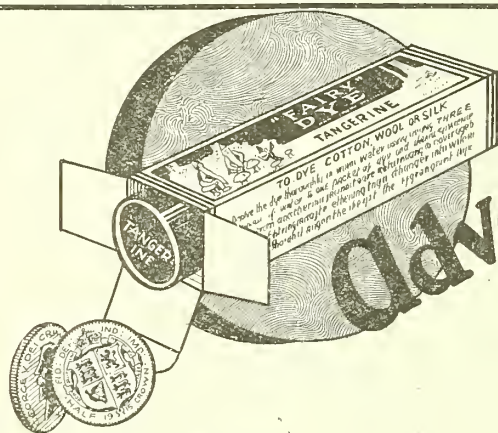
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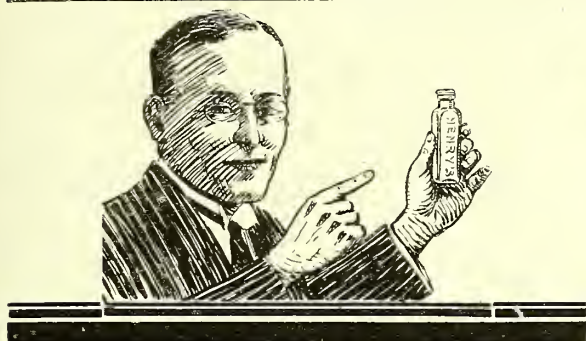
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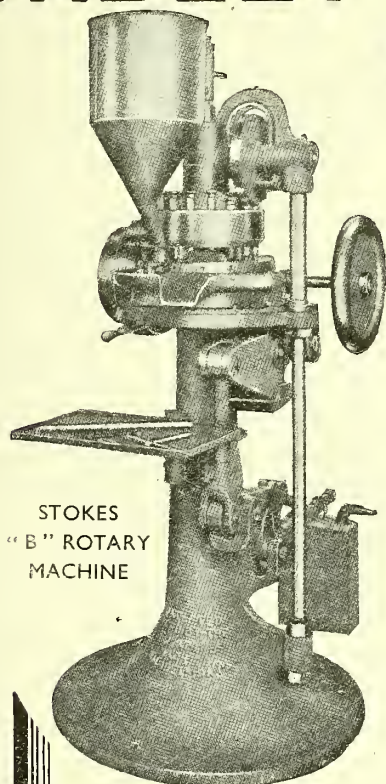
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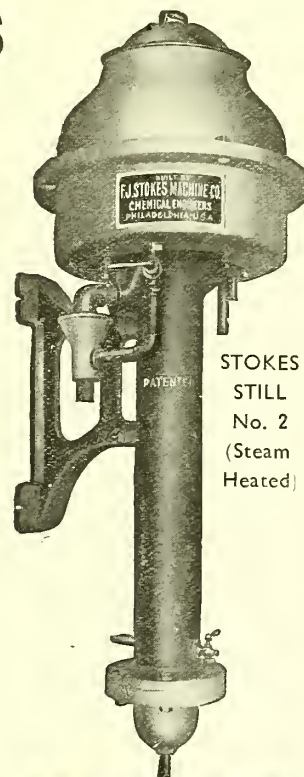
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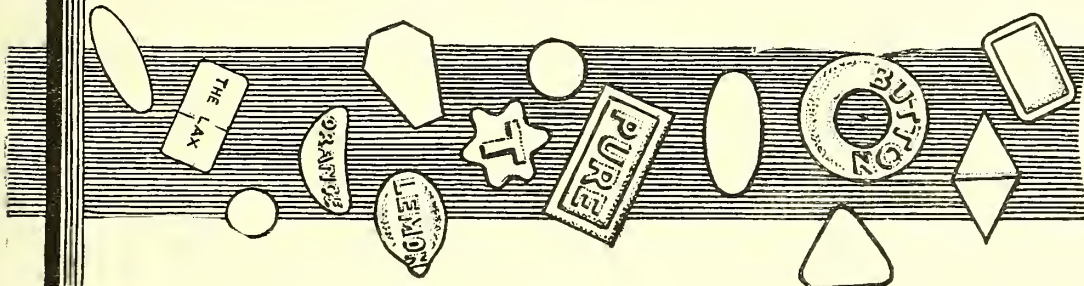
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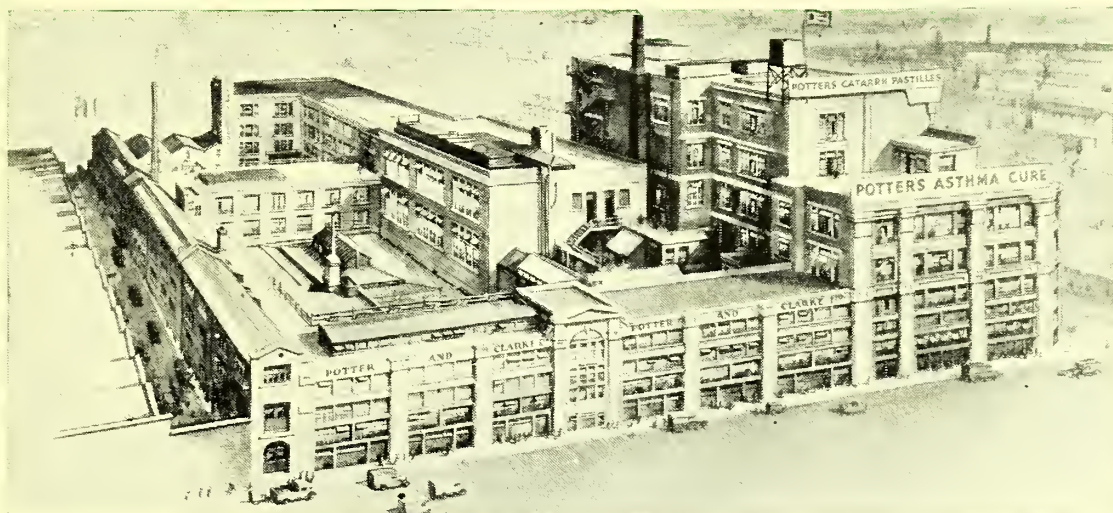


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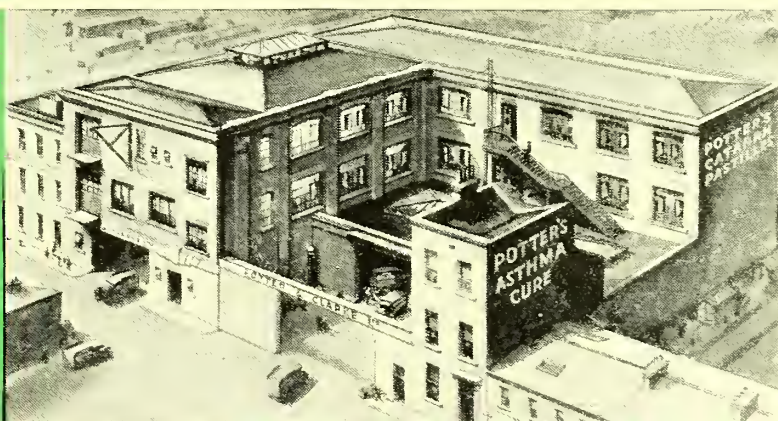
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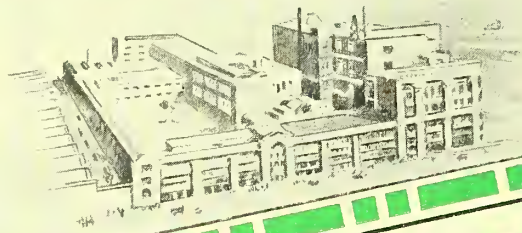


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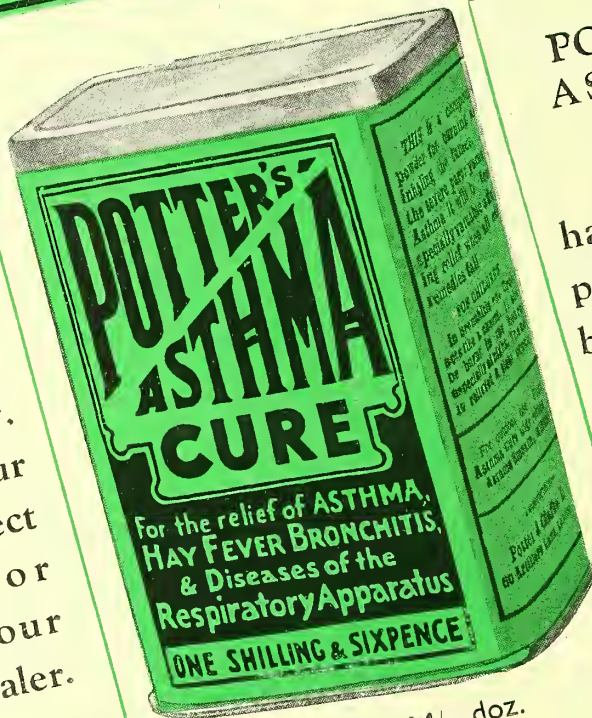
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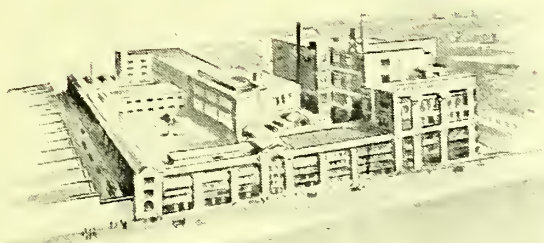
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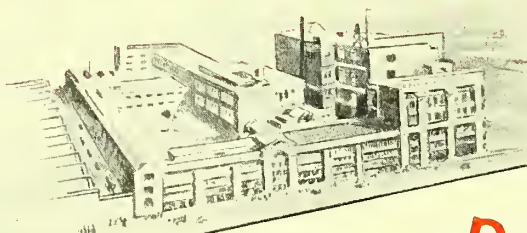
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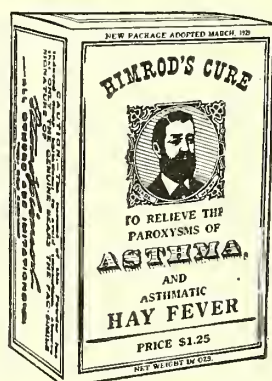
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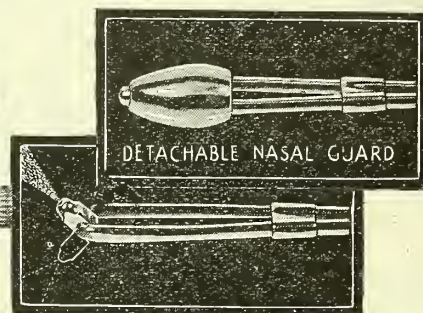
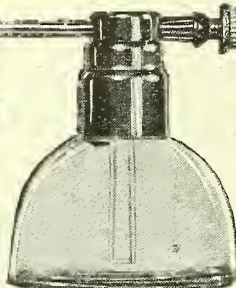
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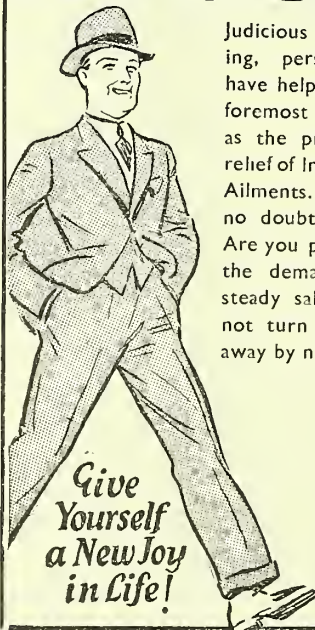


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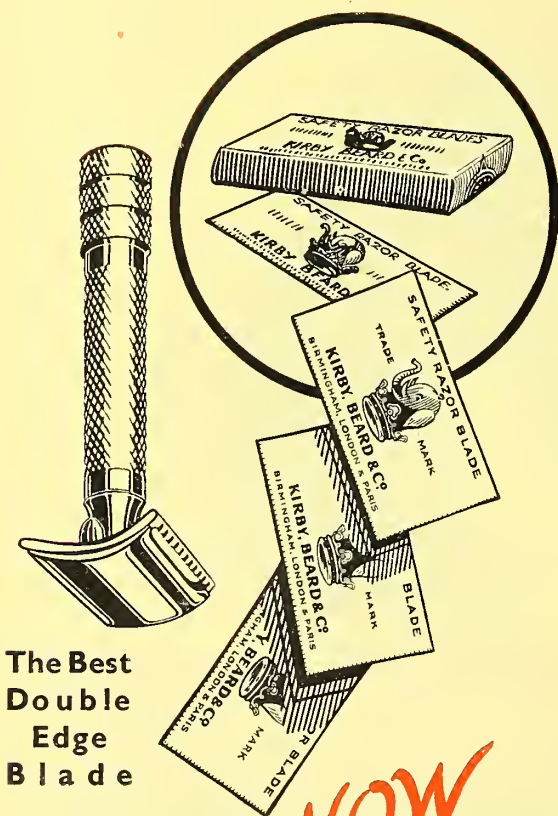
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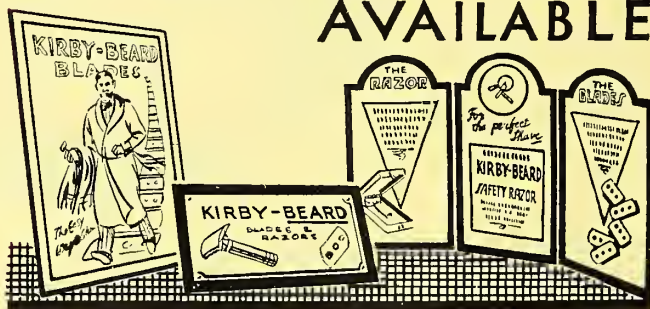
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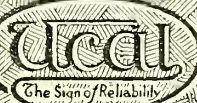
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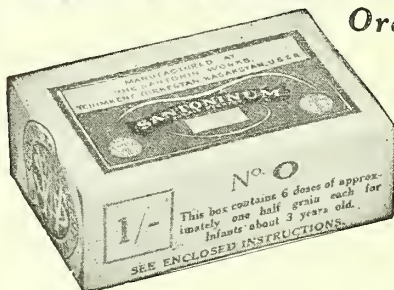
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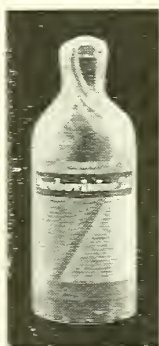
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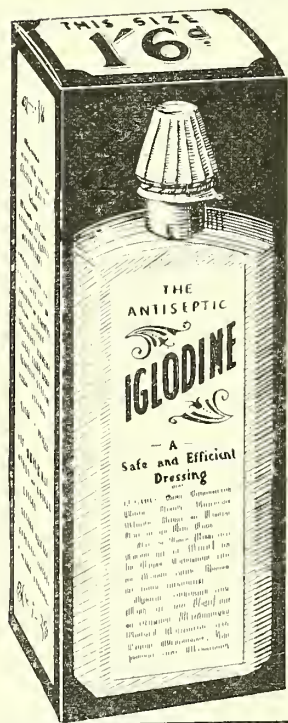
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The merits of Iglodine are now well established, and Iglodine specialities are now in constant demand. Sustained propaganda is regularly maintained in Works and amongst the general public, and repeat orders are certain. We welcome your co-operation—our terms allow a profit of 50% to the Retailer.

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(On the P.A.T.A.)

ANTISEPTIC
EMBROICATION
TOILET SOAP
OINTMENT
PASTILLES
THROAT TABLETS
CREAM
SHAVING STICK
NASAL DOUCHE
SUPPOSITORIES
SALICYLATED and
FIRST AID OUTFITS



Iglodine

is an all-British, safe antiseptic and pure drug — Tri-Iodo-Ethyl-Phenyl — and is an important factor in commercial welfare. In the performance of their various missions Iglodine preparations are particularly effective.

Showcards and advertising literature gladly sent on application. Write to us to-day for details of our Special Window Display offer.

THE IGLODINE CO., LTD.
PILGRIM STREET,
NEWCASTLE-ON-TYNE

GLAXO LABORATORIES

A depot has been established at the pharmacy of

JOHN BELL & CROYDEN

50 Wigmore Street, W.1

where all products of the Glaxo Laboratories will be obtainable, DAY or NIGHT, SUNDAYS or HOLIDAYS

Bulk packages will be broken and discount allowed

PRODUCTS OF THE GLAXO LABORATORIES

"OSTELIN" LIQUID

Per bottle of 8 cc. .. 2/6

Bulk 20z. bottles .. 12/6

"OSTELIN" TABLETS

Per bottle of 45 tablets .. 2/6

Per bottle of 250 tablets .. 12/6

OSTOMALT

$\frac{1}{2}$ lb. jars .. 2/6 1 lb. jars .. 4/-

"OSTELIN" EMULSION

In 8oz. bottles .. 2/6

COLLOIDAL CALCIUM with "OSTELIN" VITAMIN D

For subcutaneous injection.

1cc. ampoules, 6 in a box .. 5/-

10z. bottles. Per bottle .. 10/-

"OSTELIN" with PARATHYROID

TABLETS

100 Tablets .. 8/9

VIOZIN OINTMENT

In 2oz. tins. Per tin .. 2/6

OSNOL NASAL SPRAY

In phials .. 3/-

ADEXOLIN CAPSULES

In boxes of 25 .. 5/-

In boxes of 100 .. 15/-

ERBOLIN

In bottles of 25 .. 3/4

In bottles of 100 .. 10/-

In bottles of 500 .. 45/-

In bottles of 1,000 .. 80/-

ANTIVIRUS

"Antivirin" Brand

Staphylococcus: Streptococcus:

*Staphylococcus and
Streptococcus Mixed*

5cc. ampoules, 6 in a box .. 5/-

30cc. (rubber-capped)

Per bottle .. 4/-

B. ACNES ANTIVIRUS OINTMENT

"Antivirin" Brand

In tubes .. 2/6

MALTINE PLAIN

Per bottle .. 2/9 and 5/-

MALTINE WITH COD-LIVER OIL

Per bottle .. 2/9 and 5/-

MALTINE with PEPSIN AND PANCREATIN

Per bottle .. 2/9 and 5/-

MALTINE with CASCARA SAGRADA

Per bottle .. 2/9 and 5/-

MALTINE with CREOSOTE

Per bottle .. 2/9 and 5/-

MALTO-YERBINE

Per bottle .. 3/-

SUNSHINE GLAXO

Per tin .. 1/6 and 3/6

STANDARD GLAXO

Per tin .. 3/6

GLAXO (HALF-CREAM)

Per tin .. 2/6

GLAXO MALTED FOOD

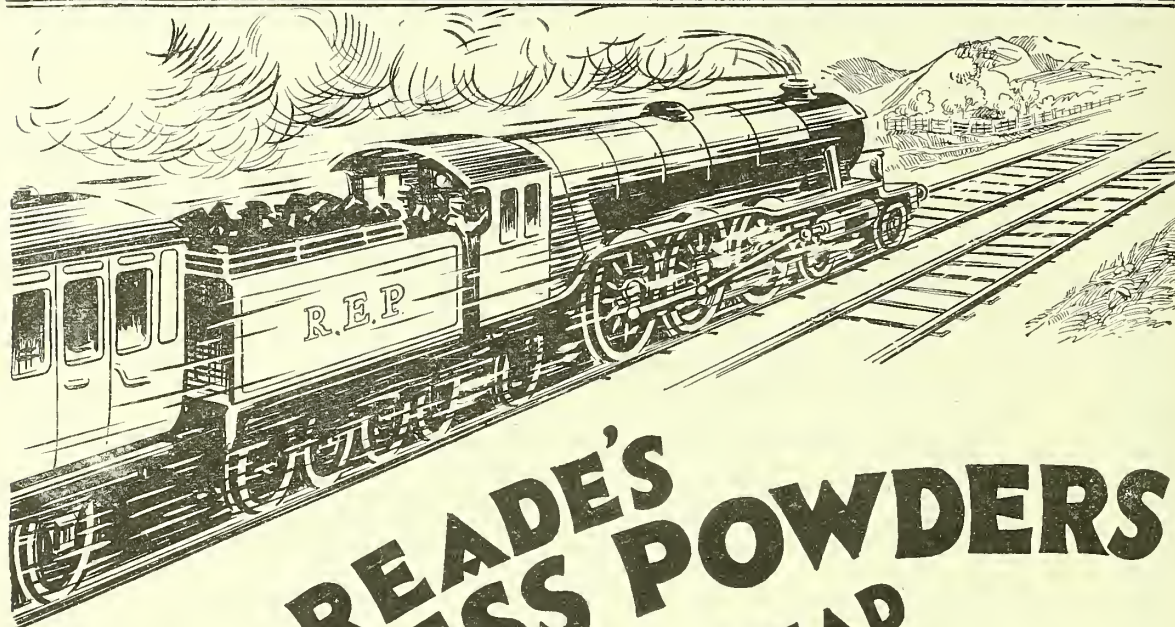
Per tin .. 1/3 and 2/4

GLAX-OVO

Per tin 1/6, 3/3, 6/- and 16/3

OSTERMILK

Per tin .. 2/-



READE'S EXPRESS POWDERS ARE GOING AHEAD

NOTE REVISED PRICES AND PACK

Sizes -	1/3 box	3/- box containing 22 powders	Box for opening containing 15 powders at 2d. each	Box for opening containing 110 powders at 2d. each
Prices	11/6 per doz.	30/- per doz.	5/- each	12/- each
Profit Yielded	3/6 per doz.	6/- per doz.	2/6 each	6/4 each

*Special Prices upon application for
£5, £10 and £25 Parcels.*

Quietly, but consistently, this sound and proved remedy has been making steady progress on the market for over seventeen years. Nothing sensational, no speculative spurts or high-pressure campaigns, just a reliable, satisfactory article backed by sound, steady methods, winning favour by its own merits. During this time territory has continually expanded and sales in each area are still increasing every year. Now the press advertising programme has been greatly augmented, and carefully-planned advertisements appear regularly in the best daily and weekly papers, covering more than two-thirds of the country.

Chemists in this area can do good business in Express Powders, giving satisfaction to their customers and making a useful contribution to their profits. Abundant testimony to the efficacy and popularity of these Powders is available, and they can be recommended with perfect confidence and safety.

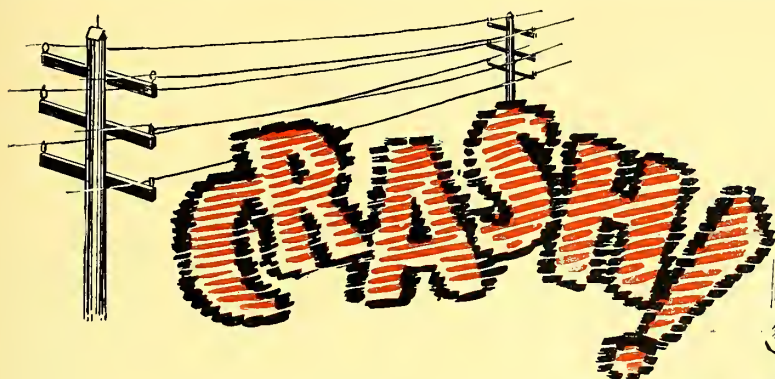
The EXPRESS CURE for
**HEADACHE, INFLUENZA
CHILLS, FEVERISHNESS
RHEUMATISM, ETC.**

London Distributors : MAY, ROBERTS & CO., LTD., 7-13 CLERKENWELL ROAD, E.C.1
SANGER & SONS, 42a HAMPSTEAD ROAD, N.W.1

Made by :

Established 1773

READE BROS. & CO. LTD., WOLVERHAMPTON



The Retail Chemist, except perhaps as a modest investor, has cause to congratulate himself on the stability of his business when compared with the uncertainty that is part and parcel of so many financial operations.

Still, temptations to unwise speculation rise to meet him every day; so it may be necessary to stress a case where "Safety First" is the only maxim worth following. When the question of a stock contraceptive demands consideration, then is the time to remember that



RENDELL'S

PESSARIES

have for 50 years had no rival in public and medical approval

CHEMISTS— Consider the facts

Rendell's, recommended by users and doctors, are known to be safe, efficacious and satisfactory, and customers asking for them will accept nothing else. Rendell's have proved to be the strongest bond between individual chemists and their customers. They are backed by sound advertising support. Write for details.

*As Trustee of
the Public Safety
let your stock
be RENDELL'S!*

W. J. RENDELL LTD.
HARDWICK HOUSE,
161-165, ROSEBERY AVENUE, LONDON, E.C.1.

CONTAINERS OF QUALITY

Skilled craftsmen in our four Factories are at work, day after day, and regularly—by hand or machine—manufacture thousands upon thousands of glass containers of every kind.

Our annealing lehrs send forth a steady stream of bottles destined to reach all corners of the earth.

Good, well-made, super-strong bottles of quality and of distinctive design.

Wise buyers realise that a good container makes all the difference to the finished product—that is why they specify the best British Bottles and regularly order from us.

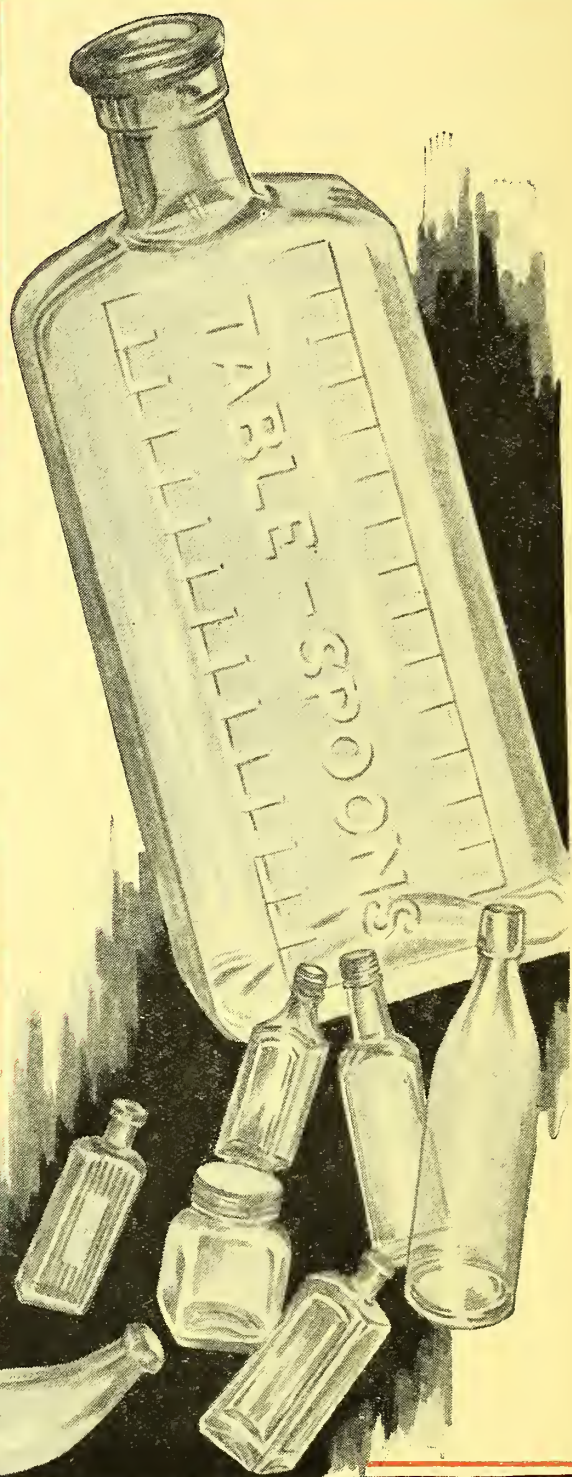
Whatever your requirements may be we shall be pleased to quote. We can offer many new and distinctly attractive shapes and can guarantee prompt delivery.

If it's a glass container, ask us to quote?

WHOLESALE ENQUIRIES ONLY.

**LAX
and
SHAW
LIMITED**

**Buy
British
Bottles**



Regd. Office : ALBERT GLASS WORKS, HUNSLET, LEEDS

4 Factories : "Albert," "Belinda," "Clarence," and "Donisthorpe."

Telephone : Leeds 21563 (2 lines)

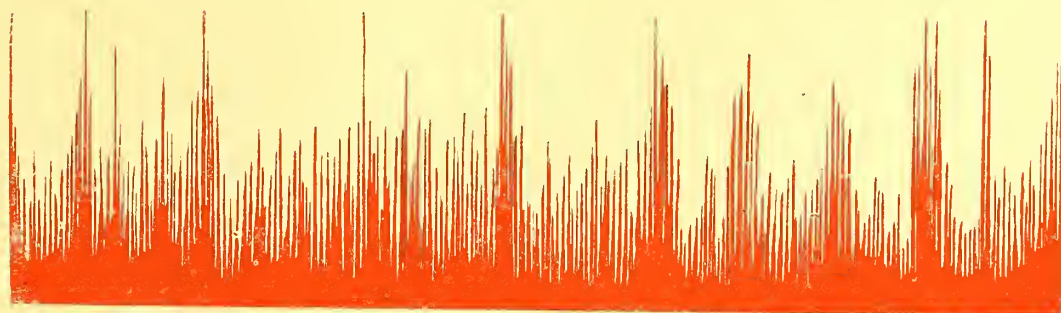
Telegrams : "Feeders. Phone, Leeds."



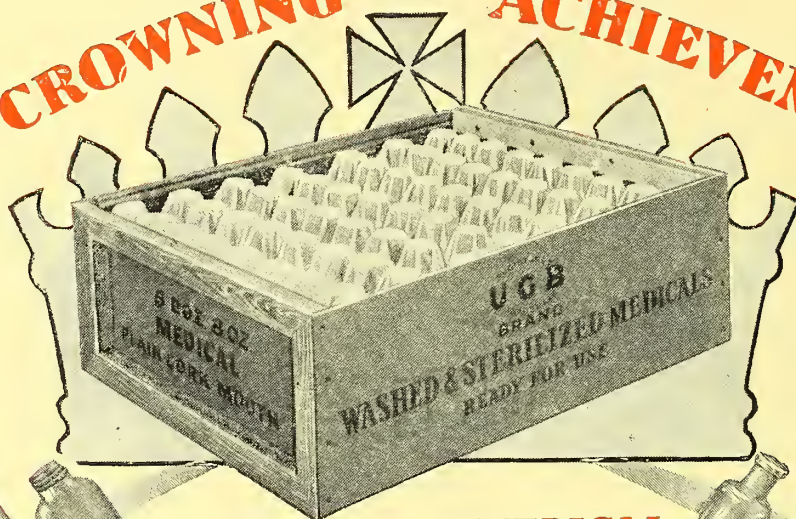
Manufacturers of
MEDICINAL
and
SURGICAL
PLASTERS
of every description



EDWARD TAYLOR LTD
SALFORD, GLASGOW, LONDON.
ESTABLISHED 1847



THE CROWNING ACHIEVEMENT



U.G.B. MEDICAL BOTTLE Service

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the SUMMER.

Obtainable from all leading Wholesalers.

UNITED GLASS BOTTLE MANUFACTURERS • LIMITED

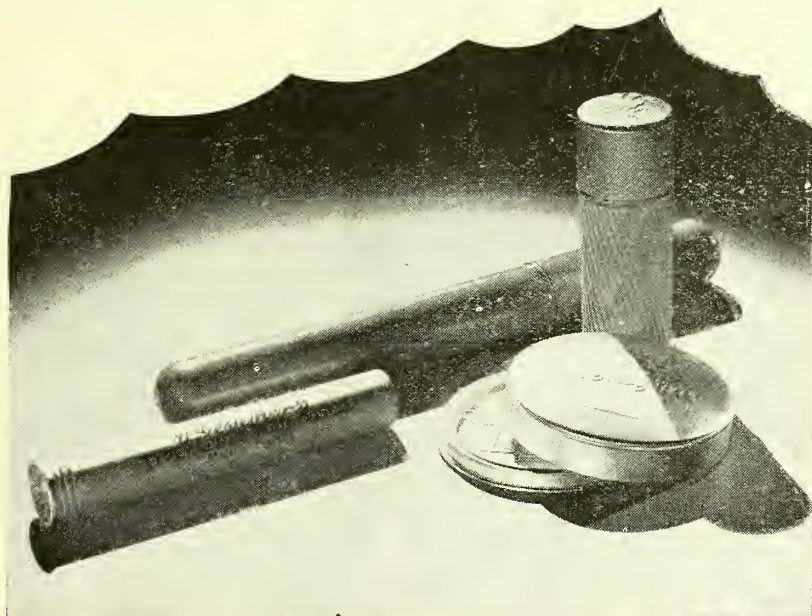
The largest manufacturers of Glass Bottles in Europe.

Head Offices :
40-43 NORFOLK STREET, STRAND,
LONDON, W.C.2

'Phone : Temple Bar 6680.

'Grams : "Unglaboman, Estrand, London."

C. & D. 27.6.31



With acknowledgments to Messrs. H. G. Sanders & Son, Ltd., Southall.

Choice and not Costly

The selling value of the aluminium packing is threefold.

1. Absolute safety.
2. Smart appearance.
3. Economy.

For these three features, aluminium is ideal in packing dainty toilet goods and household utility productions.

Excellent effects are gained by colour printing or litho, relief stamping (plain or in colour) and enamelling.

Aluminium
 THE BRITISH ALUMINIUM CO. LTD.
 ALUMINIUM PRODUCERS, ADELAIDE HOUSE,
 KING WILLIAM STREET, LONDON, E.C.4.
 Telephone: Mansion House 5561 and 8074 (5 lines).
 Telegrams: Cryolite-Bilgate, London.

Write for data on Aluminium Containers.

BOXES TO MEET ALL REQUIREMENTS

for the Chemist, Druggist and Sundriesman

No order too small. No order too large. Send your Sizes or Samples and we will quote by return. We KNOW how to meet your wishes, and will satisfy you in every way.

J. DAVIDSON, 98 SHEPHERDESS WALK,
CITY RD., LONDON, N.1

Telephone: Clerkenwell 6878

CARTONS

SIEVES & GAUZES

TESTING SIEVES Single & in Sets

FINE MESHES UP TO 320

STEVENS & MANNING
 1-3 DISNEY STREET, LONDON, S.E.1

HOP 3536

USIEVEIT—Bore—London

POWDER BELLOWS



ALUMINIUM SCREW CAPS

for Tablet Bottles

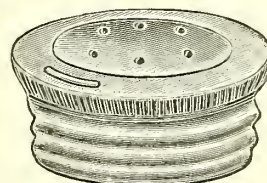
Baker Metal Stopper Co., Ltd.,

RELiance STOPPER WORKS,
 261 Icknield Street,
 BIRMINGHAM.

Telegrams:
 "Screwcap,
 Birmingham."

Telephone:
 Northern 1562

SPRINKLER CAPS



& SCREW CAPS in all metals
 including Nickel Silver and Gilt for Face
 Cream Pots, Frozen Cologne Containers, &c.



The Popular and Safe Remedy for Overstoutness

Only sold through Chemists & Prices Protected

TRADE PRICES

1/3 Size	-	-	11/3 per dozen
3/- „	-	-	27/- „
5/- „	-	-	45/- „

Order through your usual Wholesale House.

WINDOW SHOW TERMS

For a fortnight's window display of our show material (measuring about 16" x 16"), and an order of the minimum value of £2, thirteen packets are sent to each dozen ordered. Window Shows sent Carriage paid by us, and orders on bonus terms may be sent to us with the name of your usual wholesaler, and it will be charged through them.

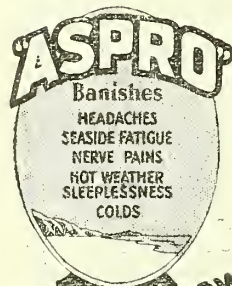


Silf is on the P.A.T.A. List

For further particulars and supplies of Show Material, write to—

**P. J. WILLIAMS, 39 Shaftesbury Avenue
LONDON, W.1**

'ASPRO' SUMMER SALES PUSH



NEW WINDOW SHOW FOR SUMMER

15,000 RUBBER CASH MATS



FREE

WE ARE MAINTAINING THROUGHOUT THE SUMMER THE FULL VOLUME OF OUR WINTER ADVERTISING

NEWS THAT WILL INTEREST ALL CHEMISTS

50% increase in sales—that's the 'ASPRO' record for the last six months. Refreshing, isn't it, in these bad times, to hear of progress. We take this opportunity of thanking all chemists for their help and co-operation. It has made this success possible—working in conjunction with our sales-producing advertising campaigns. We believe that life is progressive—business is progressive—the whole world could be progressive when dominated by continuous action based on progressive methods. To prove it we are CONTINUING OUR SUMMER ADVERTISING on LAST WINTER'S FULL ADVERTISING SCHEDULE. Further, we have just received from the press one of the most artistic window shows yet. We are also issuing FREE—practical business helps in the way of rubber cash mats for your counter (see illustration). Both window show and cash mats (if you have not already received them) will be gladly sent free on your request.

'CHEMIST and DRUGGIST DIARY' COMPETITION PROVES THAT 'ASPRO' IS EASILY THE BEST SELLER

The unique competition organised by the "Chemist and Druggist" to ascertain various matters of interest to Chemists definitely proved by CHEMISTS' OWN VOTES that 'ASPRO' is easily the chemists' best seller. It is one of the lines which yield the chemist the most profit. So you see that when you display 'ASPRO' you co-operate in the sale of one of the most active and profitable lines in the world. THE MORE YOU DISPLAY 'ASPRO' THE MORE SALES YOU OBTAIN, because every window show connects up with our vast and continuous advertising.

'ASPRO' consists of the purest Acetyl Salicylic Acid that has ever been known to Medical Science, and its claims are based on its superiority.

Agents: GOLLIN & CO. PTY. LTD. ('Aspro' Dept.)
SLOUGH, BUCKS

Telephone: SLOUGH 608

Made by ASPRO LTD., SLOUGH, ENGLAND.

No proprietary right is claimed in the method of manufacture or the formula.



DO NOT FORGET TO SEND A POST CARD TO-DAY FOR FREE WINDOW SHOW AND CASH MAT

Important Lactogen selling points

**Flaky curds—extra small fat globules
make LACTOGEN
easy for Baby
to digest**



2/9 per tin P.A.T.A.

Mothers like to know why Lactogen—the dried milk food—is the better Milk for Baby. Here are one or two facts you can tell them with confidence: Lactogen is pure, fresh, full-cream milk, with extra cream and natural milk sugar added, then made, in all important respects, exactly like breast milk. One Lactogen process modifies the casein of the fresh milk so that it forms a fine flaky curd in Baby's stomach, just as does breast milk. Another process breaks up the fat into very tiny globules, even finer than in breast milk. The Lactogen drying process preserves unchanged the valuable mineral content of the fresh milk.

Lactogen may be given as an alternate feed or as Baby's sole food. Even the most delicate Babies thrive on Lactogen from birth.

“**LACTOGEN**”
REGD. TRADE MARK
BETTER MILK FOR BABIES

Send to-day for full particulars and terms to Lactogen Bureau (Dept. AZ28), Nestlé and Anglo-Swiss Condensed Milk Co., 6 and 8, Eastcheap, E.C.3.

The
Association of Manufacturing Chemists
Limited

FOR THE PROTECTION OF THE DRUG, CHEMICAL
SOAP, PERFUMERY, PHOTOGRAPHIC, OPTICAL &
ALLIED TRADES

Departments :

STATUS ENQUIRIES
COLLECTION OF ACCOUNTS
STOCKTAKING & VALUATION
LIMITED COMPANY FORMATION
BUSINESS TRANSFERS

The Association is controlled by a Board of Directors prominently associated with the Trade and is in a position to render an up-to-date and efficient service in the above departments, and was formed for the special protection of those engaged in the Chemical and allied Trades.

PROSPECTUS ON APPLICATION

PARKIN S. BOOTH, *Managing Director*
Kimberley House, Holborn Viaduct, E.C.1

Telephone : City 1261/3/4

and at Exchange Chambers, 2 Bixteth Street, Liverpool

Telephone : Central 4330

(Private Branch Exchange)



Self-sellers

— Also —

Kay's Cheshire Birdlime
DAK Ratlime
ORBITE for Tree Banding
FLYSAC Pleated Tape Flycatcher
GORGON Spiral Flycatcher
ERA Flyspray Outfit
KAYLOID Brand Inhalant

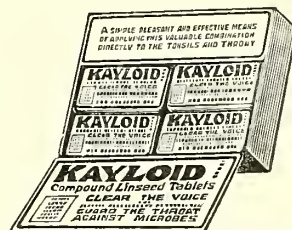
WRITE FOR SAMPLES
AND TRADE TERMS

BUSY Chemists appreciate how their time is saved by sound and adequate printed salesmanship. Newspapers and Magazines, display outers and literature are selling the Kay products here illustrated

KAY BROTHERS Ltd.

Manufacturing Chemists

STOCKPORT



HOLIDAY SEASON

Before going away, do not fail to leave instructions to
TRY MARTINDALE'S

in cases of difficulty.

We are continuous advertisers in the medical journals of:

PEPTONE "STERULES" IN ASTHMA. ASPIRIN DERIVATIVES (HALOGENISED) IN RHEUMATIC AFFECTIONS. "MERCUROME." "VIODAR," THE NEW FIRST-AID FREE IODINE COMPOUND. "STERULES" OF A VAST NUMBER OF CHEMICALS FOR HYPODERMIC AND INTRAVENOUS MEDICATION, AND FOR INHALATION

Our work necessitates very close application to the latest medical literature, and we are frequently able to help our friends concerning the most recent therapeutic developments. In addition, we hold a large and varied stock of chemicals, drugs, and pharmaceutical preparations.

ORDERS & INQUIRIES RECEIVE IMMEDIATE ATTENTION

W. MARTINDALE

12 NEW CAVENDISH STREET, W.1

Telegrams : Martindale, Chemist, London.

'Phone : Langham 2441.

EVANS, GADD & CO., LTD.

Wholesale & Manufacturing Chemists

BRISTOL and EXETER.

**LARGE
STOCKS.**

*DRUGS,
GALENICALS,
PATENT
MEDICINES,*

**QUICK
DESPATCH.**

*PROPRIETARY ARTICLES, SURGICAL DRESSINGS,
VETERINARY MEDICINES. ETC.*

Adventure

Henceforth

BY
THIS
SIGN

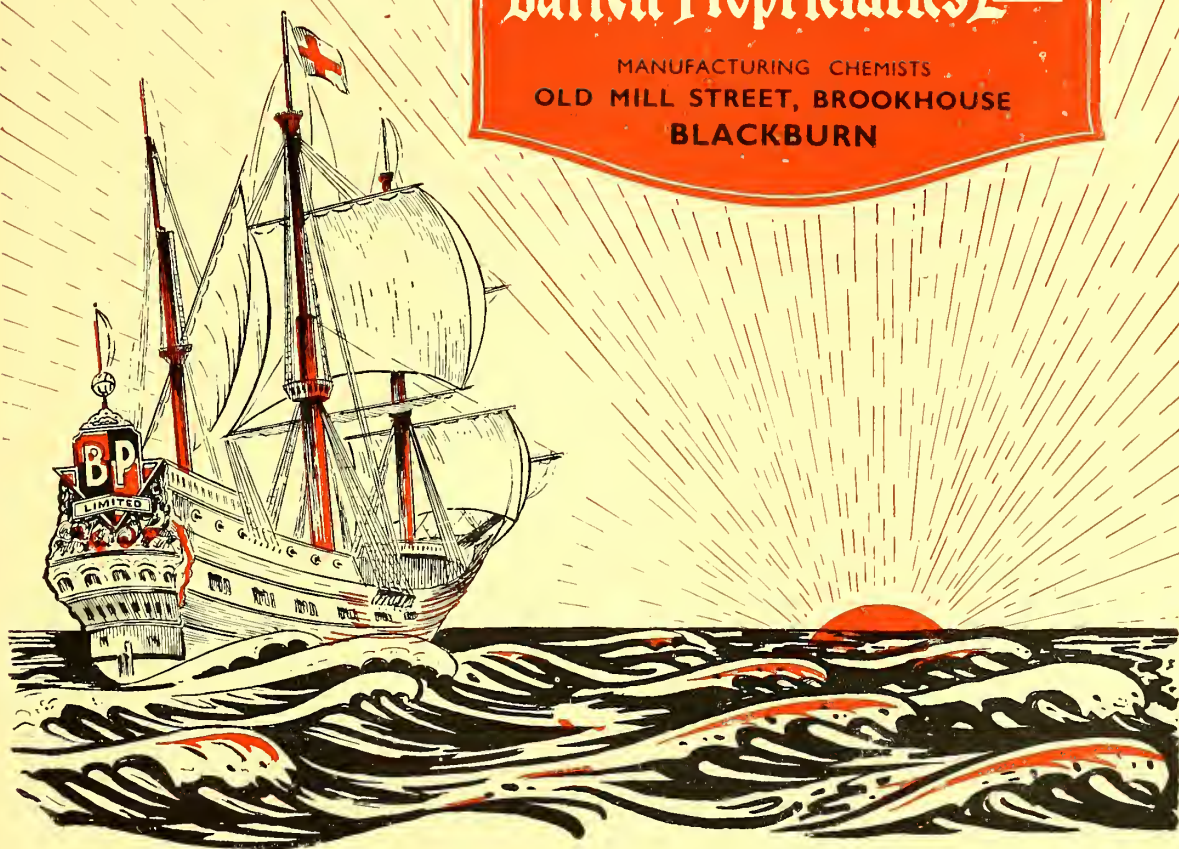


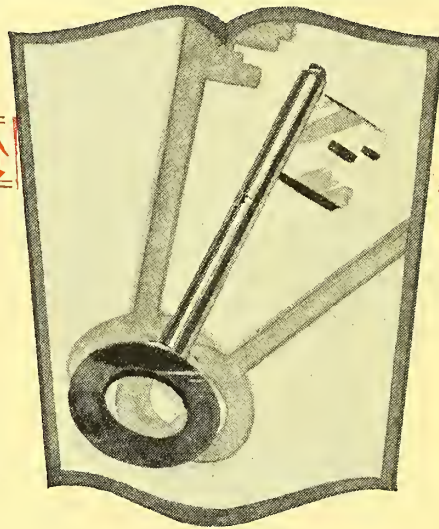
ARE
WE
KNOWN

BEST POSSIBLE
BRITISH PHARMACEUTICALS
BETTER PACKED

by
Barrett-Proprietaries Limited

MANUFACTURING CHEMISTS
OLD MILL STREET, BROOKHOUSE
BLACKBURN





Cephos
Pronounced See-foss **REGD**
 THE
 PHYSICIAN'S
 REMEDY

**completes 21 years in the
 service of Health**

**and to-day holds the
 key to every household**

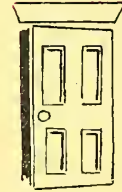
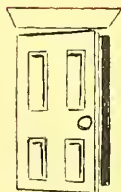
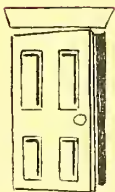
**LIBERAL TERMS
 OFFERED**

Obtain your supplies of
 Cephos through your usual
 wholesaler.

If any difficulty write direct to us
 and we will tell you the nearest
 wholesaler who can supply you.

**ATTRACTIVE
 SHOWCARDS
 and Display Materials
 available.**

Write direct to CEPHOS, LTD.,
 BLACKBURN, for Showcards even
 though you are obtaining your
 supplies elsewhere.



H. W. GRAESSER-THOMAS

Offers

ASPIRIN "FRE-FLO"

Manufactured by
W. J. BUSH & Co. L^d
London

An actual photograph (magnified) of a small quantity of ASPIRIN "FRE-FLO" taken from a stock 1-cwt. keg. Note the uniformity and evenness of the granules and complete absence of small crystals and powder.

ASPIRIN "FRE-FLO" IS THE TABLETTER'S IDEAL ASPIRIN, BECAUSE IT CONTAINS NOTHING TO CLOG THE MACHINES.

Highest chemical purity. Entirely free from the slightest trace of Acetic odour. The perfect BRITISH Aspirin.

H. W. GRAESSER-THOMAS
49 Leadenhall Street, London, E.C.3

Phone: Monument 2319.

Grams: "Unomee, Fen, London."





MALT EXTRACT MALT & OIL

YOU CANNOT BUY BETTER THAN THE BEST

————— *Wholesale & Bulk Enquiries invited*

Jeffreys, Miller & Co. Ltd.
LEYLAND MILLS.. WIGAN...

Samples & Prices on request —————

THE MALT THAT CANNOT CRYSTALLISE

DRUMMER DYES



still leading the way

Drummer Dyes always have been the dyes that every woman knows. To-day as ever, these dyes lead the way whenever a good fourpenny dye is wanted. Drummer Dyes is a household phrase throughout the whole kingdom. And, now, in powder form and in double strength, Drummer Dyes are selling faster than ever. Stock them and you will sell them.

Showcards, cut outs and window displays will be gladly furnished free on request.

DRUMMER DYES

NOW IN POWDER DOUBLE STRENGTH

SAME PRICE

4^D

Aldwych

WILLIAM EDGE and SONS LTD · BOLTON · LANCs

CHEMISTS' TRANSFERS

Messrs. ORRIDGE & Co.

56 LUDGATE HILL, E.C.4

TELEPHONE: CITY 2283.

(ESTAB. 1846.)

May be consulted at the above address on
SALES, PURCHASES & VALUATIONS

VENDORS

Vendors have the advantage of direct attention and advice as to value without additional fee.

PURCHASERS

Purchasers who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain.

VALUATIONS

Valuations having always been a prominent feature, Messrs. Orridge and Co. trust that the lengthened period during which they have enjoyed the confidence of the Profession will be regarded as sufficient proof of their endeavours to conduct these transactions in an honourable and straightforward manner.

**VALUATIONS
FOR
STOCKTAKING**

Messrs. Orridge & Co. desire to emphasize the necessity of a periodical Statement of Account, by which means alone *Profit, the Value of Business, etc.*, can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted, and eventually becomes the cause of *confusion and loss*.

Messrs. Orridge & Co. are prepared to undertake these essential duties, and will make *Special Terms* for such services.

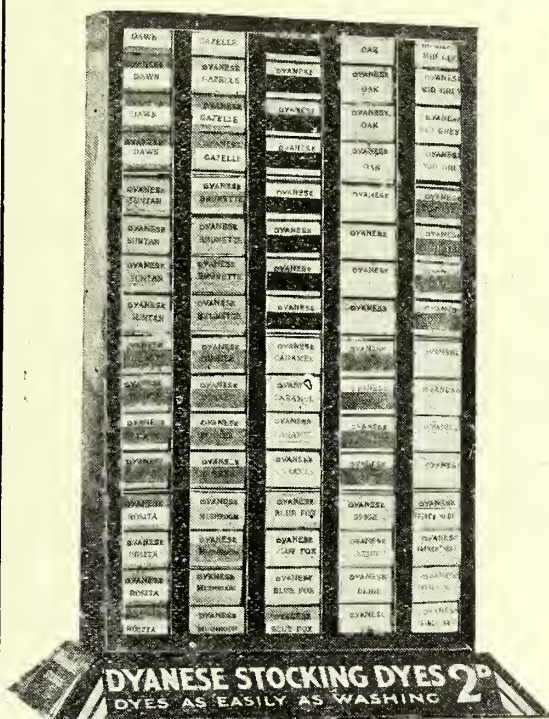
N.B.—NO CHARGE TO PURCHASERS

Terms for Valuation on application. Appointments by post, wire, or telephone have immediate attention.

SPECIAL NOTICE. Messrs. ORRIDGE & CO. have usually a large number of Businesses for Sale suitable for Gentlemen with capital, from £500 to £5,000.

ORRIDGE & CO., 56 Ludgate Hill, E.C.4

ATTRACT THE WOMEN INTO YOUR STORE



The New Metal Stocking Dye Display Cabinet contains twenty dozen Dyes.

Assorted New Seasons Shades.

From all wholesalers or direct.

Price 27/11, carriage paid.

FEW products so attract women as does Dyanese Stocking Dye. See the women folk in the departmental store—how they flock round the stocking counter—see how they love to handle and admire the many and beautiful new season's shades.

You can attract these women just the same with Dyanese Stocking Dyes. All the latest stocking shades are included in the new season's shade chart. Moreover, any woman can at a trifling cost bring her old stockings to a new fashionable shade or can restore faded or mudsplashed stockings.

GET THIS NEW ALL-METAL DISPLAY CABINET.

The new metal display cabinet enables retailers to keep a full and comprehensive stock in a few inches of counter space. There are separate compartments for each shade, and, as sold, the dyes are removed from the rear. Send to-day for a 20 dozen cabinet of Dyanese Stocking Dyes, either direct or from your usual wholesaler.

THE BEAUTIFUL NEW SEASON'S SHADES

Crevette	French Nude	Caramel
Cocoa	Rosita	Mushroom
Brunette	Duskee	Gazelle
Oak	Suntan	Beige
Dago	Shadow	Gunmetal
Florence Mills		

D All Dyanese Dyes are made under Dyanese Patents. Dyanese Patent Colloidal Dyes are the greatest possible advance over the old-fashioned packet powder dye. Dyanese Dyes do not spill, do not stain the hands, are fast to a degree unheard of with ordinary home dyes—give magnificent "expert dyehouse" results by the simplest of home processes. Dyanese Dyes make the old-fashioned and messy powder dye a thing of the past.

Send for particulars of **DYANESE UNIVERSAL DYE** (Retail 4d.)
FOR DYING ALL FABRICS

DYANESE STOCKING DYES

J. E. ELLIS, LTD. (SOLE AGENTS), HORSFORTH, LEEDS

SATISFACTION—PROFIT
TO YOUR CUSTOMERS—TO YOURSELF



AMOGAS

THE DOUBLE STRENGTH AMMONIA

The first satisfaction which comes from selling this product is the extreme satisfaction which it gives to every customer. Repeat orders and regular users are the usual outcome of the first sale. The second point is the satisfaction it brings to yourself, as it leaves a very good margin of profit. Packed in bottles, 10½d. and 1/6.



BATH AMMONIA

(PERFUMED)

This excellent line, produced to meet the modern demand for a good bath ammonia, is finding friends everywhere. It softens the water, giving forth a pleasant perfume, and its use guarantees a most refreshing bath; 9/6 per doz., carriage paid on 3 doz.; 6 doz., 9/3; 12 doz., 9/- per doz.



EXTRA STRONG AMMONIA

A line that brings profit without effort. Packed in attractive cartons with rubber cork and air-tight celluloid cap. Your own name and address on the label of the bottle. Allowances made for empty bottles and carriage paid on goods and empties: 20 oz. size—8/6, 8/3 and 8/- per doz. for 3, 6 and 12 doz. Prices of smaller sizes on application.



Attractive Showcards supplied with every consignment

WRITE FOR ALL PARTICULARS TO:—

THORNTON & ROSS LTD.
 MANUFACTURING CHEMISTS
 MILNSBRIDGE, HUDDERSFIELD.



SASSO OLIVE OIL

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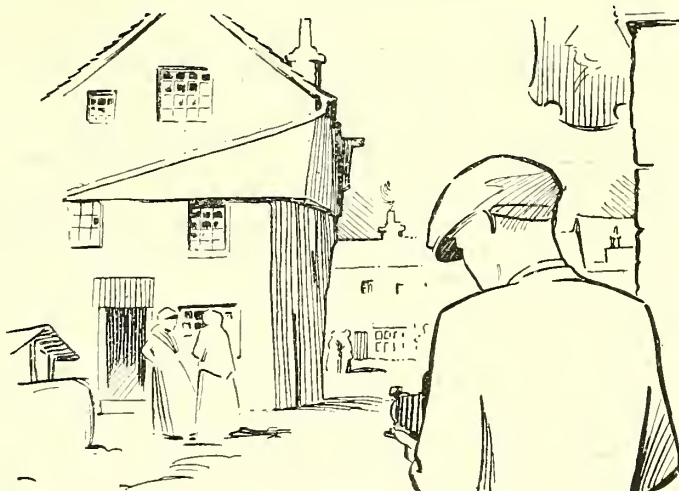
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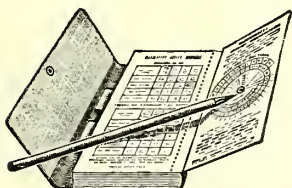
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THE CHEMIST AND DRUGGIST

A Weekly Journal of Pharmacy, the Drug, Chemical and Allied Trades

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Summary of this Issue

A First Glance at the Articles and the Principal News of our Special Issue

Colour Plates

Pages 778 and 781 of this issue, printed in colour, are from Italian sources. The first, after Pietro Longhi, shows the interior of an eighteenth-century Italian pharmacy. A physician, seated, is writing a prescription, while the pharmacist, wearing a white cap of curious shape, is applying a remedy to a patient's mouth. The other colour plate, even more full of life and movement, depicts the hospital pharmacy at Vercelli of about the same period, with work in full progress.

Articles and Communications

Retail business in Nigeria is dealt with in an article on page 776.

Beauty culture as the subject-matter of a poem by Ovid is referred to on page 775.

Modern Continental pharmacies are described and illustrated on pages 764 and 769.

Pharmacy in the Belgian Congo is the subject of a two-page article. (Pages 790, 791.)

Old newspapers form the subject of some "Observations and Reflections." (Page 773.)

A descriptive account of the Californian citrus industry is given on pages 797-800. This, like most of the special articles, has photogravure illustrations.

Dr. Charles Singer's "Sketches in the History of English Medicine" are completed in the present issue, and include several rare illustrations. (Pages 783-789.)

Mr. Herbert Skinner explains the practical difficulties in the way of making satisfactory compressed tablets, and shows how these difficulties may be overcome. (Pages 762, 763.)

Henry the Eighth's interest in medicine and pharmacy is the subject of articles by Mr. S. G. Blaxland Stubbs and Mr. Howard Bayles, illustrated by reproductions of manuscripts. (Pages 792-796.)

Professor G. Carbonelli contributes an informative article on eighteenth-century pharmacy in Piedmont. (Pages 779, 780.) The two colour plates of this issue have reference to Professor Carbonelli's article.

Manchester, the meeting place of the British Pharmaceutical Conference this year, is the subject of two articles. The first gives an outline of the history of the city, and the second describes the principal pharmaceutical and allied industries. Both articles are illustrated in photogravure. (Pages 737-761.)

The Week's News

An exhibition of posters was opened in London on June 22. (Page 734.)

The result of the election for the new North British Executive of the Pharmaceutical Society is given on page 734.

A welcome revival of interest in the essential oil markets is reported (page 801). Japanese peppermint, anise (star), bergamot, citronella, lemon and orange oils are the chief items that have advanced.

English and Welsh News

Safeguarding of Key Industries

The Treasury Order exempting hydrocyanic acid from liability to duty under Part I of the Safeguarding of Industries Act, 1921, which came into operation on January 1 last, expires on June 30. The order is not being renewed. Imports of hydrocyanic acid will, therefore, be liable to the duty of 33½ per cent., *ad valorem*, as from July 1.

Exhibition of Posters

An exhibition of posters was opened at the Victoria and Albert Museum, London, S.W., on June 22, by Lord Wakefield. The exhibition, which is housed in the North Court, comprises examples of many countries and periods, the oldest example, so far as we observed, being an advertisement of playing cards dating from 1840. Even if British posters are, as Lord Wakefield claimed, "definitely the best in the world," the principal interest for most visitors to the exhibition will probably lie in the comparison of native examples with those of other countries. France and Germany are well represented, and the work of other countries includes examples from Italy, Spain and Czechoslovakia. The exhibition remains open till September 30.

The Launceston Case

At Cornwall Assizes, Bodmin, on June 15 and subsequent days, Sarah A. Hearn was the defendant in a charge of murdering Miss Lydia M. Everard, her sister, and Mrs. Alice M. Thomas, Lewannick. The accused pleaded "Not guilty." After Mr. H. du Parcq, K.C., had opened the case for the Crown, Mr. Gilbert A. Freak, B.Sc., chief chemist in the laboratory of Cooper, McDougall & Roberts, Ltd., said that the weed-killer referred to contained 70 per cent. of white arsenic. Medical evidence was given to the effect that the symptoms in both patients were consistent with arsenical poisoning. Mr. Thomas Tickle, F.I.C., Ph.C., public analyst for Devon, stated that he analysed organs sent to him for examination. He found arsenic in each of the organs, the total amounting to 0.85 gr. Police Superintendent Pill described the inquiries which he set on foot after the inquest on Mrs. Thomas. The only purchase he could find referred to the sale of a 1-lb. tin of weed-killer. Dr. G. R. Lynch, senior Home Office analyst, described in the witness-box the symptoms of arsenical poisoning. Replying to Mr. du Parcq, who asked what was a fatal dose of arsenic, Dr. Lynch said that death had resulted from the administration of 2 gr. of white arsenic, but that recovery had taken place with much larger doses. Referring to Mr. Tickle's analysis, Dr. Lynch said that if Mrs. Thomas had only received one dose on October 18 and lived until November 4, Mr. Tickle could not have found so much arsenic in the liver. In the case of Miss Everard the amount found was 0.776 gr. Dr. Lynch went on to explain a closer analysis which he made of the hair which had been removed from Miss Everard's head. In one examination he found arsenic to the extent of 16 parts per 1,000,000. In the hair of a person who had not suffered from arsenical poisoning he had found 1.5 parts per 1,000,000. He could say that arsenic was being administered during the last seven months of Miss Everard's life, and suggested that towards the end the amount of arsenic which Miss Everard was taking had been increased in frequency or perhaps in amount. He found 40 parts per 1,000,000 of arsenic in the nails of Miss Everard, which was an exceptionally high figure. Soil from the top of the coffin contained 125 parts per 1,000,000 of arsenic, and the soil from the bottom contained 62 parts per 1,000,000. Practically all the arsenic was in an insoluble form. The accused was acquitted on both counts.

Liverpool

The present members of the local Pharmaceutical Committee have offered themselves for re-election, and there are four new candidates.

The Liverpool Chemists' Association's picnic party to Windermere numbered about fifty. Despite inclement weather the outing proved enjoyable.

Mr. W. J. Williams (managing director) of Francis Newberry & Sons, Ltd., accompanied by Mrs. Williams, has been visiting his many friends on Merseyside.

Newcastle-upon-Tyne

In connection with the death of Mr. Thomas Simpson (C. & D., June 20, p. 719), interesting details of the origin and growth of Wilkinson & Simpson, Ltd., manufacturing chemists, of which company he was chairman, are given in a recent issue of "The Newcastle Daily Journal." The business was founded in 1759 by an apothecary named Turner, who was afterwards joined by a Mr. Akenhead. Mr. Akenhead continued the business after Mr. Turner's death, and eventually disposed of it to Mr. Joseph Fairs. As we have recorded, Messrs. Wilkinson & Simpson joined forces more than fifty years ago. The wholesale development of the business dates from that time, and the formation of the present limited company from 1897.



NEW FRONTAGE OF THE PREMISES OF BOOTS, LTD., IN GRAINGER STREET, NEWCASTLE-UPON-TYNE, WHERE A DAY AND NIGHT SERVICE IS CARRIED ON.

Miscellaneous

THEFT.—The premises of William Challice, Ltd., chemists, Bromley, were entered recently, and a sum of money was stolen from the till.

ADVERTISEMENT PROSECUTION.—At Todmorden Police Court, on June 18, Parkinsons, Ltd., wholesale and retail chemists, Burnley, were fined £2 for exhibiting an advertisement so as to disfigure the scenery.

WINDOW-DRESSING AWARD.—In connection with the recent window dressing competition held during the Aberystwyth Shopping Week, awards in the chemists' section were as follows:—(1) E. P. Wynne & Son (Miss Wynne); (2) Col. B. Taylor Lloyd.

GENERAL MEDICAL COUNCIL.—At the final meeting of its June session, the General Medical Council directed that the name of Thomas Benjamin Brandon, M.D., registered on the Colonial List as of 605 Stretford Road, Stretford, Manchester, be erased from the Medical Register.

FATAL ACCIDENT.—A fatal boating accident occurred on the Thames on June 21, Miss Jessie Buntstead, a dispenser in the pharmacy of Mr. W. Fletcher, Tatchbrook Street, London, S.W.1, losing her life. Miss Hawke, of Richmond, another dispenser, was rescued.

Irish News

Brevities

In the recent Portadown shopping week the Clow cup for the best chemist's window display was won by Mr. Isaac Davidson, Ph.C., with Mr. John Sandford, R.D., second.

The summer examinations in connection with the Pharmaceutical Society of Northern Ireland began on Monday, June 22, and ended on June 26. All the examinations were held in the Municipal College of Technology. There were eighty-five candidates—thirty-five in Part I (new syllabus), twenty-eight in Part II, and twenty-two for the modified examination.

At the Central Criminal Courthouse, Dublin, on June 15, 16 and 17, Brigid Walsh, Meelin, co. Cork, was tried for the alleged murder of her husband, who died from strychnine poison. It was stated for the prosecution that Mr. O'Toole, M.Sc., the State analyst, found strychnine in a glass which had contained lemonade and also in the pocket of a coat worn by the deceased. Mr. James Horgan, L.P.S.I., Kilmallock, stated that the prisoner entered his shop on May 5 and handed him a letter purporting to come from David Walsh and containing a request for some poison for dogs. She signed Mr. Walsh's name in the poison-book, and underneath his name she signed "Brigid Murphy." The witness then gave her 10 gr. of crystal strychnine in a sealed bottle bearing a "poison" label. Cross-examined, the witness said he knew the prisoner by appearance only. He gave the poison on the strength of the letter. Mr. Justice Hanna: You were quite wrong. After an hour-and-a-half's retirement, the jury returned to court and asked Mr. Horgan if there was any possibility of any strychnine being on the paper in which the bottle containing the poison was wrapped, and if the bottle was securely sealed. Mr. Horgan replied in the negative to the first part of the question, and added that the bottle was not sealed, but he fixed the cork securely and put his stamp on it. After a second retirement the jury found the accused "Not guilty."

Scottish News

North British Executive

The number of voting papers issued in connection with this year's election of the North British Executive of the Pharmaceutical Society was 1,746; 456 of these were returned and thirteen were informal, leaving 443 votes to be recorded. The following is the result of the poll:—

McVitae	333	Carmichael	218
Simpson	330	Miller	214
McNab	325		
McMillan	316	Robertson	209
Arthur	310	McCall	198
Coull	310	Heddlie	181
Harley	303	Henderson	166
McKenzie, T.	301	Gemmell	159
Bennett	293	Reid	139
Culbert	281	Stuart, C. J.	135
Stewart, C.	277	Meredith	107
Milne	272	Thomas	107
Duff	268	Scarlett	104
McKenzie, D. G.	255	Brown	101
Currie	241		

The chairman declared the first seventeen to be elected members, constituting, together with the president of the Society, the vice-president, and Messrs. Thomas Guthrie and James Jack, as *ex-officio* members, the Executive for the year 1931-32.

Brevities

News of the death of Mr. William Alexander McGiffie, who served his apprenticeship with the late Mr. James Dorman, chemist and druggist, Stranraer, has been received from Australia. In the early 'nineties Mr. McGiffie emigrated, and established a successful drug-store in Brisbane. He left personal estate valued at £43,482.

On the occasion of the Riding of the Marches at Linlithgow on June 16, Deacon Alexander Spence, chemist and druggist, took a prominent part. He entertained the Fraternity of Dyers, of which he is Deacon, holding his official breakfast at Linlithgow in the house



GUESTS OF DEACON ALEXANDER SPENCE (WHO IS WEARING CHAIN OF OFFICE)

of his sister, Mrs. Wood, chemist and druggist. Deacon Spence was assisted at the function by his brother, Dr. Edward Spence, who is also a chemist and druggist. Mr. William W. Spence, chemist and druggist, was reappointed Baron Bailie of the Port of Blackness for another year.

Military Medicine Congress

The sixth International Congress of Military Medicine and Pharmacy was opened in The Hague on June 15 by Prince Henry of the Netherlands. The Congress was presided over by Major-General Diehl and was attended by over 500 members, representing twenty-four different countries. An interesting exhibition of prints, pictures, surgical instruments, ambulances and portable army pharmacies, sent by various countries, was on view in the Ridderzaal. Among the principal topics was a lengthy discussion introduced by the Netherlands and Jugo-Slavia on the recruiting, training and status of army doctors and pharmacists. Reference was made to the fact that in the matter of status, the British Army is very backward, and does not include a single pharmacist holding even the rank of lieutenant.

U.S. Drug-Store Statistics

THERE is now one drug store to every 2,067 persons in the United States, according to figures recently published. The total number of drug stores in the country is 59,488, not including drug departments in general stores. Of these stores 41,729 are located in places of 2,500 population and upward, while only 17,759 remain in strictly rural centres to serve more than a third of the country's population. Of the 59,488 stores listed, only 3,854 are under chain ownership. The figures also present an interesting study in retail business investment. Of the 59,488 stores, 16 per cent. are valued at more than \$20,000 each, 14.4 per cent. at \$10,000 to \$20,000 each, 28.1 per cent. at \$5,000 to \$10,000 each, 26.4 per cent. at \$1,000 to \$5,000, and 14.8 per cent. at less than \$1,000.

Legal Reports

Unstamped Dutiable Medicines.—At Newton Abbot, on June 16, Captain Horace Barrow, Manor Croft, Paignton, was summoned for having sold a box of pills, known as "Captain Barrow's Liver and Kidney Capsules," not duly stamped, and for not having a licence. Mr. B. M. Stephenson, who prosecuted on behalf of the Board of Customs and Excise, said he understood that the defendant went to markets mainly for the purpose of consultations, and the pills in question, although sold by him, were not pressed upon the public. Although Captain Barrow published the formula for making the pills, the amount of the ingredients was not given, so that nobody could actually make up those particular pills, and there was no doubt that defendant claimed a proprietary right. Captain Barrow, who pleaded "Not guilty," and conducted his own case, handed up boxes of his pills to the magistrates before addressing them. He also produced a bottle of a well-known brand of salts, which, he pointed out, had no stamp on it and which also bore the formula without the amounts of the ingredients. He contended that this appeared to be on all fours with his case. He was simply a layman, and he had no secret. He could well afford to stay away from markets if he wished and work with wealthy people in his surgery at Paignton, but he felt he had a duty to working men and women. Evidence was called for the purpose of establishing "cures" which defendant had effected and also to prove that he gave away capsules free to people who could not afford to pay for them. In imposing a fine of 10s., including costs, in each case, the chairman remarked that the justices had to carry out the law and could not help themselves, though Captain Barrow was doing good work.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office.

JOHNSTON'S (CASH CHEMISTS), LTD. (P.C.).—Capital £100. Objects: To carry on the business of chemists, druggists, etc. R.O.: 194 Trundleys Road, Deptford, S.E.

PEAT MEDICAL TREATMENT CO., LTD. (P.C.).—Capital £100. Objects: To carry on the business of specialists, chemical engineers, manufacturers of and dealers in all kinds of chemicals, etc.

BYJO WASHING PRODUCTS, LTD. (P.C.).—Capital £1,500. Objects: To acquire the trade mark "Byjo" and business carried on as the Byjo Manufacturing Co. R.O.: Garside Street, Bolton.

EXCHANGE OIL CO., LTD. (P.C.).—Capital £500. Objects: To carry on the business of oil and grease manufacturers, refiners and blenders, chemical merchants, etc. R.O.: 12-22 Norris Street, Liverpool.

MURPHY CHEMICAL CO., LTD. (P.C.).—Capital £33,000. Objects: To carry on the business of manufacturers of and dealers in antiseptics, fertilisers, animal medicines, feeding stuffs, etc. Solicitor: W. M. Smith, 11 Meeting-house Lane, Sheffield.

INDUSTRIAL AND CHEMICAL ENGINEERING CO., LTD. (P.C.).—Capital £100. Objects: To carry on the business of engineers, manufacturers and merchants in industrial and chemical plant, chemicals, etc. R.O.: 33 St. Stephen's House, Westminster, S.W.1.

BLEACHING PATENT PROCESSES, LTD. (P.C.).—Capital £5,000. Objects: To adopt an agreement with A. S.

Kilpatrick and the East Lancashire Chemical Co., Ltd., and to acquire the bleaching, scouring and filling processes. R. O.: 30 St. Ann Street, Manchester.

THE PHARMACEUTICAL CORPORATION, LTD., was registered as a "private company" on June 11, with a nominal capital of £17,500. The objects are to acquire and carry on the business carried on by Maurice Teitz (otherwise known as Henry Gordon) as the British Pharmaceutical Products Co., of manufacturing and dealing in anaesthetics, sterilising and antiseptic products, particularly "Nuvotox" and "Asapa," together with the British trade mark "Nuvotox." R.O.: 8 City Road, E.C.1.

ARKINA EXPORT CO.—Particulars of the Arkina Exportation Société Anonyme (Arkina Export Co.) were filed on June 10, pursuant to Section 344 of the Companies Act 1929. The capital is 252,500 francs in 200 ordinary shares of 1,250 francs each and 100 preference shares of 25 francs each. The company was incorporated in Switzerland in April 1931 for the industrial and commercial exploitation of the mineral water "Arkina" in England and the British Empire. The head office is at Yverdon. The British address is 72-73 Dunster House, Mark Lane, E.C.3.

WILKINSON & SIMPSON, LTD., chemists, Newcastle-on-Tyne.—Satisfaction in full on June 12, 1930, of memorandum of deposit dated June 19, 1917, and registered June 28, 1917.

LONZA CHEMICAL WORKS (BASLE).—Net profits to March 31, including balance brought in, was Frs. 2,986,369 (against Frs. 5,291,289); dividend 5 per cent. (against 8 per cent.) on ordinary capital of Frs. 48,000,000; reserve increased to Frs. 3,650,000.

PHILIP HARRIS & Co. (1913), LTD.—Net profit to March 31 was £16,068, plus £10,788 brought in. To writing off depreciation in market value of investments, £2,926. Final dividend 15 per cent. tax free (same as last year) on ordinary, making 30 per cent., plus bonus of 15 per cent. tax free; forward, £11,575.

GOULD HIBBERD & RANDALL, LTD.—Mortgage (ranking in priority to floating charge created by existing debentures) on freehold land and premises, 7 Church Litten, Newport, I.W., and plant and machinery, dated June 8, 1931, to secure all moneys due or to become due from the company to the National Provincial Bank, Ltd.

ASHTON & PARSONS, LTD.—Report a net profit for the twelve months ended April 30, after providing for depreciation, loss on exchange, income-tax, and directors' fees, of £35,642 (against £52,045 for 1929-30) and, adding the undistributed amount brought forward, £9,713, a total amount of £45,355 is available for distribution. The directors have decided to set aside out of this sum £5,000 in reduction of preliminary expenses (the same). The dividend upon the Eight per Cent. Cumulative Participating Ordinary shares absorbs £32,000, and the board recommends that £8,355 be carried forward. For the preceding year an additional 1 per cent., making 9 per cent., was paid on the Ordinary shares, and 8 per cent. was also paid on the Deferred shares.

Gazette Bankruptcy Acts

RECEIVING ORDER AND ADJUDICATION.

COOPER, W. B., "Sunnydene," Lowgate, Sutton-on-Hull, and 96 Hessle Road, Kingston-upon-Hull. drug-store proprietor.

Notes for the Conference Visitor on Manchester Historic Municipal Commercial Cultural and Ecclesiastical

THE CITY OF MANCHESTER

HAD the great Roman soldier and historian elected to ravage, instead of Gaul, the portion of our country now known as Lancashire, he could with equal truth have divided the County Palatine into "tres partes," each of which in those far-off days differs materially from the other (as to-day) in many features. The difference is initially one of topography and geography, with rivers as the dividing factor. The extreme northern portion comprises the English Lake District and the portion north of the Sands beyond Lancaster; an intermediate zone between the Rivers Lune and Ribble known generally as the Fylde (field); and a southern portion between the Rivers Ribble and Mersey, in a southerly corner, of which area is Manchester, located in the "Mersey Gap." In order to afford readers of THE CHEMIST AND DRUGGIST, some of whom may know Manchester only by name, with an idea of Lancashire in general before dealing with its commercial capital—the venue of the British Pharmaceutical Conference in 1931—a brief foreword is necessary.

Excepting the Lake District, and the parts abutting on the Pennine Range, the major portion of the County of Lancaster is covered with glacial *débris* overlying Triassic Sandstone. The general levelness of the county stretching into Cheshire has given this area the generic name of "the Cheshire Plain," and travellers from the North, as they speed south by train, will have ample opportunities of making observations on this physical feature. The eastern portion is filled by the Yorkshire Hills, forming many admirable vantage points whence the Cheshire plain feature can be viewed. Even within historic times this plain was almost impassable owing to the dense forests which commence where the hills terminate, followed by deep bogs (called mosses locally—owing to the prevalence of peat moss) and marshes. The present line of railway practically divides these old areas of forest and bog. The bogs are still here, though owing to drainage and cultivation the danger of crossing them has become negligible. Cultivation, too, has played its part; one often sighs for the old bog woodlands, with their inimitable charm, and a more frequent sight of the bog asphodel—Lancashire's native plant. The glacial features are well seen at the northern entrance to the county at Carnforth, the station being excavated out of a moraine. Southwards and eastwards of Preston begins the industrial area of Lancashire, coupled with the coal area, having Wigan as an approximate centre. This coal area stretches as far as Bradford, a part of Manchester, where coal is mined. A final acquaintance with the ice age can be made in the Quadrangle of the University, where a huge block of Andesite unearched during excavations in the neighbourhood is carefully preserved. Geologically, Manchester rests upon Triassic Sandstone and Permian rocks, overlaid by glacial *débris*, sand, river alluvium and gravels. The adjoining formations slope towards Manchester in the form of a great semicircle, of which the city may be broadly called the centre, a feature illustrated by the flow of the rivers. The great Pendleton fault runs almost midway through Manchester, and is a contributory factor to many matters of general and geological interest.

Early Man and the Romans on the Irwell

Early man was by necessity a traveller, by force of circumstances a naturalist, and for self-preservation a strategist; these faculties, cultivated by experience, made

him an acute observer, not only of conditions, but also of physical features favourable to his welfare and personal protection. Credit may even be given to some ancient Brython who, wandering along the banks of the then bright River Irwell, fixed upon the junction of this river with its tributary the Medlock as a place where, on dry sandstone, he could erect his primitive habitation. His home was protected by the bend of the joining rivers, the swamps in front, and the rising ground behind. There is no direct evidence of this, though the imaginative faculty favours the probability. Was there a second settlement within the area of the present city, approximately on the site of the Cathedral, where the River Irk joins the Irwell?

The Roman invasion of Western Europe during the first century of our era affords definite evidence of the establishment of a Roman military station in the position just indicated, where the river Irwell (rising beyond Bacup) and its tributary the Medlock (rising near Oldham) are joined in one stream. The actual date of the founding of the fort is doubtful; it may have been about the beginning of the second century, and for three centuries afterwards, or thereabouts, a Roman soldier stood sentry at the entrance to the "Mersey Gap," the southern outlet of Mancunium. The site is covered approximately by the timber yard of Messrs. Southern, off Chester Road. Readers unacquainted with the topography of Manchester may be told that a portion of the camp would probably come near to the position of the Exhibition Hall in Liverpool Road. The military position was extremely well chosen, being almost at a cross road which connected the main Roman road southwards from Chester with its extension northwards towards Lancaster and York, and other roads to various forts in the adjoining counties. Various relics of the Roman occupation have been unearthed during excavations in the vicinity of the camp—domestic ware, fragments of tiles, etc. In 1612 an altar was found in Castlefield, dedicated to Fortune the Preserver. A mithraic stone came to light in the Hulme district in 1821, a reminder of the prevalent religion of the Roman legionary. Ten years another another inscribed Roman altar was found, to the joy of local antiquaries. The present remains of the fort consist of a portion of the eastern rampart about six yards long, three feet high, and six feet wide. The hypocausts which heated the water for the baths were traceable on the banks of the river at the end of the eighteenth century, but all vestiges have now disappeared.

The Dark Ages and the Conquest

With the cessation of the Roman occupation in Lancashire, local history closes for a long series of years. Marauding hordes came from Ireland and Scandinavia by sea, and from North Britain by land, sweeping away all evidences of civilisation as they devastated the fertile lands of the rivers and valleys. Even the remains of sculptured and other crosses which help so much to elucidate at least some of the history of these centuries of ruthlessness are wanting; a few local names are the residue of years of molestation. Just a gleam of local history shines across the early portion of the tenth century. The Anglo-Saxon Chronicle (913) relates that Edward the Elder, pushing beyond the boundaries where the Great Alfred ceased his movements, "... sent a Mercian force to Mamecestre

(Manchester) in Northumbria, and caused it to be repaired and manned." Whence the name "Manchester." The first syllable "Mam" or "Man" is of a prior date to "Chester." The second Antonine Itinerary has the word Mamucium (on the road to York); the tenth Antonine Itinerary has Mancunium (on the road to Ribchester); the Anglo-Saxon Chronicle the word "Mameceaster," which remained in use down to the fifteenth century, to be replaced by the present-day "Manchester" = a place of men.

The Norman Conquest, which looms so much in the mind as a great dividing period in national history, did not have an immediate effect in the north-western portion of England: in fact, it is not under twenty years after the disaster at Senlac that Lancashire—and then only indirectly—comes within view. The Domesday Inquisition of 1085 does not refer to Lancashire as a separate unit. The northern part is included in the portion relating to Yorkshire, and the southern part "inter Ripam et Merham" (between the Ribble and the Mersey) in the portion relating to Cheshire. There is, however, in the particulars relating to the Hundred of Salford—in which hundred Manchester is still contained—a reference to two churches in Manchester:—"The Church of Saint Mary and the Church of St. Michael held one ploughland free from all burdens except Danegeld." The Church of Saint Mary has become the Cathedral; as to the Church of St. Michael, the location of which is somewhat doubtful, opinion favours St. Michael's Church at Ashton-under-Lyne, at the extreme end of the old Manchester parish adjoining Cheshire. The "ploughland" referred to is at Newton Heath, midway between Manchester and Oldham; and revenue from this ploughland is still drawn by the Dean and Chapter of Manchester.

The Conqueror distributed large awards, particularly in land, to those commanders who had shared his success; among these was Roger of Poitou, to whom was granted the greater portion of the southern portion of Lancashire, including the Manor of Manchester. Roger finally fell into disgrace, and in 1102 passed into banishment. The Manor of Manchester then became the property of the family of Grelley, in whose possession the manorial rights remained for a couple of centuries, and with the acquisition of which mediæval Manchester began to locate itself around the precincts of the present cathedral. Henry III granted to Robert Grelley the right to hold a fair at the feast of St. Matthew (September 21), the site of which was Acres Field, now St. Ann's Square. In 1301 Thomas Grelley, the last of the family, granted the charter, a copy of which may be seen in Queen's Park Museum.

The Tudors and the Stuarts

On the death of the last member of the Grelley barons the manorial rights passed to John de la Warre by his marriage with Joan Grelley. The fourth de la Warre bequeathed them to his half-sister Joan Lady West. The Wars of the Roses did not witness any conflict within the county of Lancaster. Ten years after the fateful day at Bosworth, Henry VII (1495) paid a visit to Manchester. There is a delightful picture of Manchester during Tudor times by Leland, who, in his "Itinerary" (1538), writes thus:—

"I rode over Mersey by a great bridge of timber called Crossford Bridge and so about three miles to Manchester. Manchester on the south side of the Irwell standeth in Salfordshire, and is the fairest, best built, quickest [liveliest] town of all Lancastershire, yet is in it but one parish church. There be divers stone bridges in the town, but the best of three arches is over Irwell. This bridge divideth Manchester from Salford, which is a large suburb to Manchester, on this bridge is a pretty little chapel."

The accession of the Stuarts to the English throne and the subsequent troubles, regal, civil and religious, which followed are somewhat lightly passed over by historians in so far as the period affects Lancashire—in which area the conflict had mainly a religious bias. The first clash of arms in Manchester was near Leland's

stone bridge during the annual fair on Sunday, September 24, 1642, a month before a weapon was raised at Edgehill. Manchester, having gained in the first struggle, became for the remainder of the wars the main source of supplies for men, munitions and military administration. Initially Manchester leaned towards the Stuarts, but the turn of events resulted in a pronounced Parliamentary feeling in which the county shared. Among Cromwell's supporters was Lieutenant-General Charles Worsley, of Platt Hall, in Rusholme, Manchester, who, on Cromwell's nomination, was elected member of Parliament for Manchester, and who is said to be the person who took away "that bauble." Worsley was succeeded by Richard Radcliffe as the member; he in turn passed away in the last year of the Long Parliament, and thus ended the parliamentary representation of Manchester until the Reform Bill of 1832. A worthy Mancunian—Humphrey Chetham—to whose benefactions reference will be made later—was sheriff of the county in 1635, one of his duties being the collection of ship money.

Manchester in the 18th and 19th Centuries

Passing over many matters of local import, the next phase in Manchester's history is its participation in the Pretender's claims of 1715 and 1745. The first of these movements owed its inception mainly to the anticipation of Lancashire support to the Scottish Jacobites. Syddall, a Manchester participator, was condemned to death, with others, at Liverpool, and was executed in Manchester. The second restoration movement was initiated on November 29, 1745, by the proclamation of the Old Pretender as James III at the Market Cross, Manchester, where a body of troops, numbering thousands, had come under Prince Charles. The force on December 1 commenced to march to Derby, but, owing to lack of anticipated support, a retreat was decided upon, and the crestfallen army marched further north to meet with defeat at Culloden.

Modern Manchester may be dated from the middle of the eighteenth century, in point of time almost coincidently with the movement generally known as the Industrial Revolution. This growth of production from land work to mechanical power, from domiciliary work to that of the factory, furnishes the economic historian with more than ample material in tracing the rapid growth of industrialism which centred around Manchester from 1750 to 1830. These features can only be briefly referred to. Manchester and surrounding towns, in consequence of the extension of the factory system, soon became engaged in the great problems of housing and the maintenance of public order. Meanwhile other national factors were having an effect: political and social reforms, owing to a restricted parliamentary franchise, had become great movements; such movements need the populace to work upon, and this populace was at hand in southern Lancashire, with Manchester as its general centre. Factory Acts became necessary in the cotton areas as far back as the opening years of the last century; to these must be added the financial conditions which followed upon the cessation of the Napoleonic Wars. Discontent among the workers became general: the agitation for wide reforms was prevalent everywhere. These movements culminated in the great disaster of "Peterloo" on August 16, 1819, when an assembly mainly peaceful was holding a reform meeting on St. Peter's Fields, Manchester, to impress upon the Government the urgent need of many reforms. By some unfortunate circumstance or series of circumstances, the military were called upon to disband the assembly, with the result that several persons were killed and injured. The scene of the incident is the site of the Manchester Free Trade Hall, from the platform of which hall succeeding generations have listened to many orators and reformers. The Chartist agitation found a fruitful field for propaganda in Manchester, whilst the movement for the repeal of the Corn Laws was mainly supported by politicians and others in direct association with the Cotton City. In the



The broad open space of Piccadilly



An old house in Market Place



Frontage of the great block of buildings of the Royal Infirmary

Below, No. 9, the largest Dock on the Canal



VIEW-POINTS IN MODERN MANCHESTER



THE HOME OF MANCUNIAN CIVIC PRIDE

Left, the Clock Tower of the Town Hall. Right, a portion of the Council Chamber and (below) the Great Hall

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'sixties came the American Civil War, which cut the whole cotton district off from its supply of raw material: a condition approaching famine prevailed, and was borne with a wonderful stoicism.

A FEW years after the coming Conference, Manchester will have enjoyed municipal government for the space of a century only; an extent of time which makes it a babe in comparison to the ancient boroughs of the Midlands and the Southern Counties. The Court

Municipal Manchester

Leet exercised its powers until 1791, when a Commission of Police was established; this authority, however, only effected the administration of paving, lighting and police. It was not until November 1, 1838, that Manchester became a municipality. The old Town Hall, built in 1822-25, was in King Street. It became the Reference Library, the site of which is now occupied by Lloyds Bank. The present Town Hall fronting Albert Square was completed in 1877 from designs by Alfred Waterhouse, R.A., and is of Gothic design. An interesting feature of the frontage is canopied figures of famous men associated with Manchester history. The main entrance has two statues in sitting posture; these will interest pharmacists as representing John Dalton (by Chantrey) and John Prescott Joule (by Gilbert). The main staircase has a particularly happy design, and leads to the Great Hall, where for a few moments the eye should rest. The roof of the Hall is finely treated in colour with the coats of arms of the various Dominions: these should be viewed with an opera glass. The unique feature, however, is the decoration of the lower portion of the wall of the Hall, executed by Ford Maddox Brown, illustrative of historic and other incidents associated with the city; this treatment is particularly apt, and for the benefit of prospective visitors may be indicated:—

1. The Romans building a fort at Mancenion.
2. The baptism of Edwin. Manchester formed part of the Kingdom of Deira, and hence was under Edwin's rule (A.D. 627).
3. The expulsion of the Danes from Manchester (about A.D. 910).
4. The establishment of Flemish traders in Manchester brought over by Phillipa, Queen of Edward III (A.D. 1363).
5. The trial of Wycliffe. Wycliffe had as a patron saint John of Gaunt, Earl Palatine of Lancaster.
6. The proclamation regarding weights and measures (A.D. 1556), illustrating an order of the Baronial Court Leet of Manchester relating to the testing of weights and measures.
7. Crabtree watching the transit of Venus (A.D. 1639), in which observation he was associated with Horrox.
8. Chetham's life dream (about A.D. 1640). Humphrey Chetham died in 1653 before his dream could be realised—a dream fulfilled, however, by his executors in the establishment of Chetham's Hospital and Library.
9. Bradshaw's defence of Manchester (A.D. 1642) against King Charles I's troops under Strange and Montague. The action took place on Salford Bridge, now the site of Victoria Bridge.
10. John Kay, inventor of the fly shuttle (A.D. 1753).
11. The opening of the Bridgewater Canal (A.D. 1761): depicts the opening of the canal at Barton, where the canal was carried over the river Irwell by means of an aqueduct.
12. John Dalton collecting marsh-fire gas.

The City Council—upon which two pharmacists sit—controls all the needs of the city community; and owing to its central location amid a large industrial population, Manchester forms a convenient centre for the distribution of foodstuffs brought in from Cheshire and other sources, as well as by import through the Ship Canal. The old market area adjoined the Cathedral, and a portion still bears the name Old Market Place. The market rights originally were the property of the Lord of the Manor, and one must go back to 1579, when Joan Lady West, the then holder, sold them, including "all fines, markets, tolls, liberties, customs, privileges, free warren, &c., &c., to the manor belonging," to John Layce, a London merchant, for £3,000. He resold them for £3,500 to Sir Nicholas Mosley, in whose family they

remained until the acquisition by the city for £200,000—rights which in 1808 might have been acquired for half the sum. With this purchase a mediaeval privilege in Manchester came to an end. The modern markets for general produce, fish, etc., in Shudehill, rank in size and output next to Covent Garden, London, while meat is distributed from the Water Street Market in quantities equivalent to a second Smithfield. Associated with these may be mentioned the huge Produce Exchange, which is more particularly the venue of the wholesale grocery trade, and a somewhat unpretentious Coal Exchange.

The Public Health

Water was obtained in the old days from Shude Hill Springs and from the river Medlock: in more recent times it came from the present neighbourhood of Fountain Street and Spring Gardens, being brought by a conduit to the Market Place. The present huge water needs for domestic and commercial purposes—not only for Manchester, but also for its neighbours—are obtained from the Longendale Valley, between Manchester and Penistone, Thirlmere in the Lake District, and a further supply is at the moment being obtained from a second Lake District source, Haweswater. Gas and electricity are furnished by supply stations, which for vastness and equipment merit commendation. The open spaces of the parks are beauty spots throughout a greater portion of the year, despite an adverse atmosphere of soot, phosphoric and sulphuric fumes. Many of these parks have special features. Heaton Park, with its expanse of 600 acres, acquired from Earl Wilton, contains the municipal golf courses where pharmacists may test their relative preference for "steel" or "hickory." Alexandra Park has a wonderful collection of cacti—probably the largest in the country—a collection which is worth more than a casual inspection, even by those well versed in the life history and forms of this interesting group of the vegetable world. Queen's Park houses an exhibition, showing the historical development of Manchester. Visitors with a *penchant* for archaeology or local history should endeavour to inspect this museum; it affords in a concrete form an idea of historic Manchester in substance which would need pages of the *C. & D.* to describe. Phillips' Park is noted for its season display of tulips. Platt Fields Park possesses a unique statue of Abraham Lincoln; whilst Platt Hall itself is a structure of interesting period brickwork, recently by good fortune preserved from demolition. Other oases of green sward relieve the monotony of streets in all parts of the city.

TO the outside world Manchester and cotton are almost synonymous terms; does this world, however, consider the numerous fabrics composed of cotton, the enumeration of which would fill a small dictionary? Let us name a few—brocade, cashmere, gingham, muslin, nainsook, poplin, Oxford shirtings, long Manchester cloth, repp, winceyette, zephyr, and so forth, ignoring fabrics which are manufactured for foreign markets. All

these materials have their distributive market in Manchester. Fabrics woven from cotton fibre have been made in the East for many centuries, and no doubt found their way into Europe through the Near East. During the Middle Ages Italy and the Netherlands became manufacturing areas, long before Manchester or Lancashire, profiting by the influx of refugees from Europe, began to utilise "cotton-wool." That strange wool growing on trees: this would be about the end of the sixteenth century. Cotton fabrics became a serious competitor to woollen fabrics, and legislation was necessary to protect the old industry. The first Manchester cotton mill was erected in 1781.

For years it was impossible to produce a yarn—twisted cotton—strong enough for the warp or longitudinal threads. The necessity of satisfying markets and customers stimulated inventive energy to produce a cotton cloth which would compete in finish with those

made abroad and also be cheap to meet a popular demand. As early as 1708 Paul, of Birmingham, took out a patent for spinning wool or cotton by machinery; but the great advance came half a century after by the invention (1753) of the "flying shuttle" by John Kay, a native of Walmersley, near Bury. This enabled the weaver to double his output. This invention stimulated the demand for yarn, and in 1774 James Hargreaves, a Blackburn weaver, patented the "spinning jenny," by which eight threads could be spun as easily as one. Still the yarn was only suitable for the weft, it was still not sufficiently strong for the warp. This need was met by Richard Arkwright, a Preston barber, inventing (1769) a spinning frame, which allowed calicoes to be made entirely of cotton by producing a strong warp yarn. Power was needed to drive the machines. Water power was first utilised, which explains why the old cotton mills were located on rivers or large streams. Finally, about 1779, Samuel Crompton made the famous "mule"; the fine yarn thus produced became an immediate success, and enabled the weaver to be independent of foreign supplies for his fine cotton for muslins. The cotton industry rapidly progressed in the district of Manchester, aided by a humid climate, the proximity of coal for steam power, the nearness of salt in Cheshire, and the copious supply of pure water coming from the western slopes of the Pennines.

Raw cotton is still marketed at the Liverpool Cotton Exchange. Manchester has not an initial participation in this matter, because it was not an original port of import. It is a different matter with intermediate or finished cotton goods; makers, merchants and distributors foregather in Manchester to effect the sale of their wares. The first Exchange was erected at the bottom of Market Street in 1729 by the lord of the manor. In 1792 this building was taken down and replaced by a larger one (opened in 1809). This soon became too small for the purpose, and had to be enlarged during the 'sixties and 'seventies of last century. The present Manchester Royal Exchange, still at the bottom of Market Street, and occupying a site approximate to that upon which the old merchants bartered, was opened in 1921 by the King and Queen. The massiveness of the exterior can simply be described as impressive; it would be more so if the location was on elevated ground and the view not interrupted. The interior is unique in the enormous floor space of the great hall, which covers many thousands of square feet, and is not seated. "High 'Change" is on Tuesday; between two and four in the afternoon the sight from the visitors' gallery of this huge floor space filled with members on 'Change transacting or talking business is one to be remembered.

Transport and the Canal

Many of the finishing operations through which the woven cloth passes are done independently and in districts which have specialised in the work; the modern idea is to eliminate this "multiple" treatment as far as possible, and concentrate the operations under a single roof. The transport of raw material and finished product is a serious one as regards cost for manufacturers and distributors. In old times the salt tracks, pack roads and turnpike roads sufficed for the conveyance of the food and other needs of a relatively small and scattered community; with the advent of factory production came the necessity for cheaper and quicker distributive methods. Manchester was particularly fortunate in this matter by the construction of the Bridgewater Canal in 1739, which brought coal at a cheap rate; a century later (1830) saw the opening of the Liverpool and Manchester Railway, but every pound of cotton had to be imported; and Manchester is many miles from the sea. The only solution was to bring Manchester nearer the sea by the construction of the Manchester Ship Canal—one of the great engineering feats of the world. The initial mover in the venture was Daniel Adamson, of Didsbury, who in 1882 called

a few interested persons together to discuss the project. About £350,000 had been expended in initial costs before the first sod was cut in 1887 by Lord Egerton of Tatton. The preliminary capital of a few millions was mainly found by the industrial community through the medium of friendly and other societies, and when further capital became necessary the Manchester City Council furnished £5,000,000. The construction involved many engineering difficulties; a final feat was the adoption of means to carry the old Bridgewater Canal over its great neighbour by means of a huge rectangular water box. On January 1, 1894, the first big vessel berthed in the docks, and from that date forward Manchester as a port appeared on bills of lading. The docks cover a considerable portion of Trafford Park, the ancient demesne of an old Lancashire family. There is an assumption that Manchester manufacturing interests are mainly with cotton: this is far from the actual state of affairs. Its immediate area is one of the largest engineering districts in the world. Hats, caps, umbrellas, clothing, waterproof garments, rubber goods, and so forth are also manufactured in mass quantities.

Cotton Research and Railway History

To the pharmacist cotton is something more than a vegetable product; it is a chemical compound, with the innumerable possibilities which result from its treatment by other chemicals. Then comes its physical properties, and finally its liability to the attack of insects, mould, and fungi. The cotton trade makes ample provisions for dealing with all these features. The Chamber of Commerce Testing Station checks the tensile strength of a fabric, examines and reports upon a finished article (for example, such a prosaic object as a National Health Insurance bandage). The more purely scientific side is in the hands of the Cotton Research Association at Didsbury, where intensive investigations into the ravages of insects upon raw cotton or the cotton plant as a whole, with the idea of preventive treatment, are always in progress: following in the wake of the cotton entomologist comes the cotton botanist, who deals in like way with the pathology of cotton-plant life, remedial treatment being undertaken experimentally.

As with the Ship Canal, so with the railways, the centenary of which so far as Manchester is concerned was celebrated last year, to commemorate the opening of the Manchester and Liverpool Railway, built by Stephenson against many suggestions of probable failure, owing to the necessity of carrying the railway over what was considered an impassable bog—Chat Moss, a few miles away from Manchester. The actual interest to-day is the existence in a perfect state of preservation of the original buildings and booking offices of this railway in Liverpool Road, Manchester, just behind the City Exhibition Buildings: those who are interested in the romance of the railway may thus be brought into direct touch with the earlier state of locomotive haulage. To complete the railway experience the visitor can walk along the longest railway platform in the kingdom—which is continuous through Victoria Station to Exchange Station—and in addition appreciate the automatic railway signalling. The Assize Courts in Strangeways, close by, are on the site of an old hall in the midst of Manchester's Jewry. The long frontage and the great Assembly Hall are worth the attention of those interested in architecture.

Manchester and Culture

IN the case of a populace by necessity engaged in industry and its problems, it may be thought that the pursuit of culture could not find a place amid the calls of the office, the factory or the warehouse: it may be a bold statement, but it is no less true that Manchester and its surrounding districts are the most cultured places in the world—not on the lines of "double firsts," but in the real appreciation and pursuit of the arts, crafts and culture which make the individual. Education is not a growth of to-day in Manchester: as far back as 1640, a petition was pre-

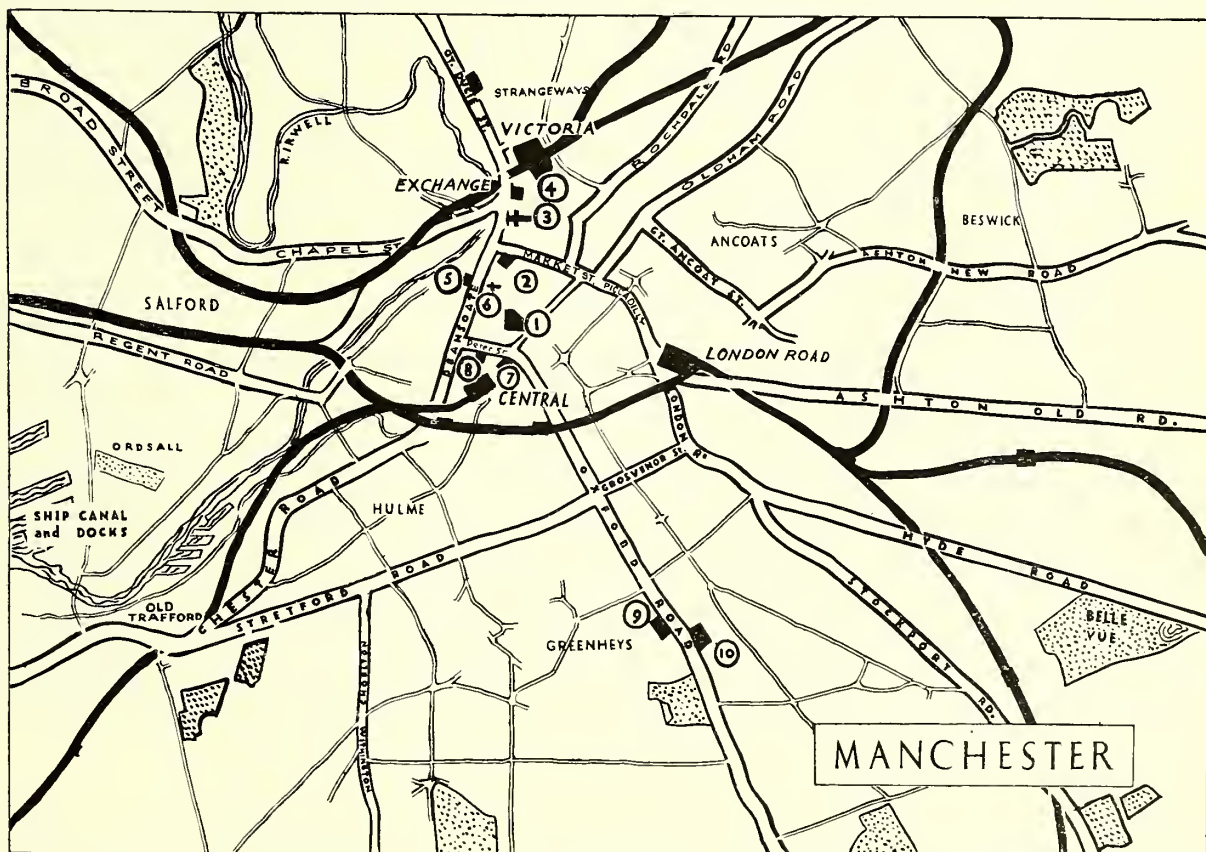
sented to Parliament on behalf of its inhabitants praying for the establishment of a university. The Civil War, however, came along.

The Grammar School was founded in 1515 by Hugh Oldham, Bishop of Exeter, through his trustees, Hugh and Iram Bexwicke, the constitution being on such a liberal basis of management that the administrative body possesses every freedom to alter and develop the school in accordance with the needs of the day. The school adjoins the next scholastic foundation in respect of date—the most interesting feature of Manchester—its mediaeval Chetham's Hospital and Library, situated on an angle of land where the Irwell is joined by its tributary the Irk. The story of this "gem" is soon told without going too far back in local history. The buildings were originally the Baronial Hall of the Lords of the Manor, altered to accommodate the clergy of the adjoining church of St. Mary after it was collegiate by Thomas de la Warre, Rector of Manchester in 1421. The College escaped the sequestration of Henry VIII, but was dissolved in 1547 by Edward VI, the property passing to the Crown. Afterwards it was transferred to Earl Derby, who used it for residential purposes; under the Commonwealth the structure and its precincts fell into disrepair. The trustees of Humphrey Chetham—a prosperous Manchester merchant—purchased the buildings in 1653, and adapted them into a hospital for poor boys and a library for public use in accordance with the benefactor's will. The quaint dress of blue coats, pancake hats, and buckled shoes gives an old-world appearance to an industrial area.

The Victoria University

The story of the Victoria University of Manchester may be briefly told. In 1846 John Owens left a sum

of approximately £100,000 for "providing or aiding the means of instructing young persons in such branches of learning and science as are taught in English Universities" subject to the stringent condition that neither students, teachers nor professors should be required to make any declaration of religious opinion. Five years later (1851) Owens College was founded in Quay Street, in a house which had been the home of Richard Cobden, of Corn Law fame; subsequently the house was bought by George Faulkner, Owens's friend and executor, and presented to the College after alterations and additions had been made. Frankland was the first teacher of chemistry; later Sir Henry Roscoe, who may truly be said to have established the reputation of the College as a school of chemistry; in addition to chemistry, literary, classical, historical and biological subjects were taught. For a while the attendance languished; then came the turning-point, not only in the number of students, but also in general interest. In 1868 an appeal was launched for funds, and the £100,000 obtained was largely expended in the buildings in Oxford Road at the bottom of the present University quadrangle, designed by Sir Alfred Waterhouse. In 1874 a charter was obtained; a year later the professors issued an appeal advocating the establishment of a university to grant degrees. Opposition to the proposal was soon apparent, with the result that the federal University, comprising University College, Liverpool, Yorkshire College, Leeds, and Owens College, Manchester, was formed; this arrangement gave rise to many difficulties in administration, and with the separation of the constituent colleges in 1903 the Victoria University of Manchester came into being. Any attempt to indicate the scope of the teaching available would be superfluous in an article of this kind, but an exception may be made in the case of pharmacy, where again



1—Town Hall
2—Royal Exchange

3—Cathedral
4—Chetham Hospital

5—Rylands Library
6—St. Ann's Church

7—Midland Hotel
8—Free Trade Hall

9—Victoria University
10—Royal Infirmary

the wisdom of broad-mindedness in establishing a School of Pharmacy is apparent. Mr. James Grier, M.Sc., Ph.C., is in charge of the Pharmaceutical Department.

In due proportion to academic education, technical instruction at the Municipal School of Technology in Sackville Street, opened in 1902, is amply supplied; and the school may for all practical purposes be considered a part of the university. A former principal, Mr. Reynolds, always contended that this school owed its existence to two outside factors, the old Mechanics' Institutes (potent means in education in mid-Victorian times) and the munificence of the late Sir Joseph Whitworth. Manchester may be proud that it has one of the finest technical schools in the world, and when the contemplated additions are completed, one which in dimensions may out rival the far-famed Charlottenburg School. One of the interesting sights of this industrial city is to watch the influx of students into the school for the evening classes, from 6,000 to 7,000.

Literary and Antiquarian Societies

An industrial community is too often judged upon "industrialism" alone; but entire immersion in industry is not the character of the Manchester community. Its pioneers and their successors have been conspicuous for tempering their business zeal with a leaven of general culture. This culture has found its outlet in the many literary, scientific and other associations which flourish within the cotton city. Among these, initial place must be given to the Literary and Philosophical Society, founded in 1781, making it one of the oldest provincial societies. Its meetings were held originally in the Assembly Coffee House—probably a part of the then existing Exchange; then in rooms located behind the present Cross Street Unitarian Chapel. In 1799 the premises at 36 George Street, still the domicile, were purchased for £600. Pharmacists will learn with interest that in 1845 the Society instituted an inquiry into the nature of potato disease. John Dalton, who came from Kendal to Manchester in 1793, was secretary to the Society in 1800-08, its vice-president till 1819, and its president until his death in 1844. Thus is a prosaic business street still associated with one of the greatest scientific theories, for within these George Street walls the great physicist worked out his theory of atomic structure. The rooms contain a collection of relics of Dalton, many of his manuscripts and diagrams, flasks, weighing instruments, barometer, etc. John P. Joule read his first paper to the Society in 1841 on "The Electric Origin of the Heat of Combustion," and all Joule's work on the mechanical equivalent of heat was done in Manchester. He became president four times.

The Lancashire and Cheshire Antiquarian Society may be considered as a Manchester Antiquarian Society. Its meetings are held within the precincts of Chetham's Hospital by the liberal permission of the feoffees. The volumes of the Transactions of the Society are packed with information concerning Manchester and its past, not the least interesting feature being the admirable illustrations. The Manchester Literary Club maintains a lively interest in literature by its frequent meetings, and leavens the matter of syllabic metres by an annual wassail meal at Christmastide. The Astronomical Society and the Microscopical Society continue the scientific association by holding their meetings in the house of the Literary and Philosophical Society.

Pharmacy can claim an association with Manchester in literature. What pharmacist has not read De Quincey's "Confessions of an Opium Eater"? De Quincey passed the early years of his life in the Greenheys district of Manchester, behind the present university buildings; he attended the Manchester Grammar School with what success the world knows. Mrs. Gaskell lived for many years in Plymouth Grove, Manchester, as the wife of a Unitarian minister. Her "Life of Charlotte Brontë" ranks as one of the great biographies. Harrison Ainsworth, of "Lancashire Witches" and "Old St. Paul's" fame, was born in King Street in 1805. John Byrom, the

inventor of a system of shorthand, and the writer of the hymn "Christians Awake," had his home at Kersal Cell. Other distinguished writers are Thompson, the author of the "Hound of Heaven"; Mrs. Linnaeus Banks, Mrs. Louisa Potter and Mrs. Frances Hodgson Burnett. John Ruskin lectured at the 1857 Exhibition on the "Political Economy of Art," and in 1859 on "The Unity of Art," which ultimately became "The Two Paths." In 1864 he spoke on "King's Treasures."

May a word be said for the Lancashire dialect, now, alas! slowly passing away with the shawls and the clogs? There is a tendency to sneer at dialect as being vulgar. It is not: it is language full of idiom and of ancient names and words, preserved only because it is the language of everyday people, untouched by the influence of Isis or Cam. The Lancashire dialect, writings and poems are really a literature in themselves, and repay the student of a local mother-tongue. The most prominent of these writers may be named: John Collier, Ben Brierley, Edwin Waugh, Samuel Laycock, J. T. Clegg and Oliver Ormerod.

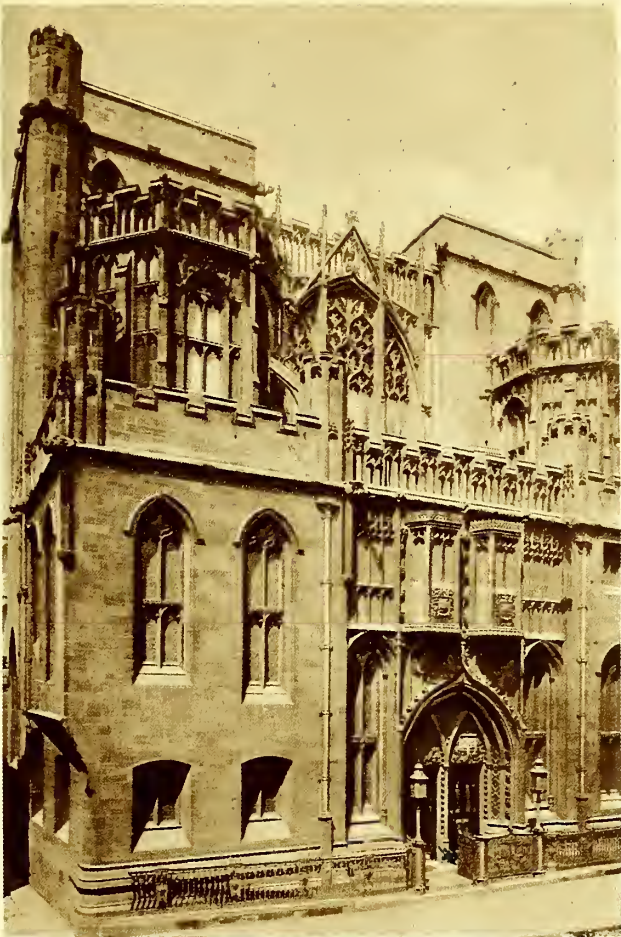
The great Rylands and other Libraries

The preservation of literature is one of Manchester's great functions. The Chetham's Hospital Library (1631), previously referred to, is one of the oldest public libraries of the world. It is housed in the old dormitory portion of the hospital, where free access is given to students and research readers. The next library is one whose claim to mention has no doubt been anticipated—the John Rylands Library in Deansgate. In truth, "it beggars all description": neither imagination nor words are at the writer's call to offer anything approaching a description of this great gem in sandstone, enclosing even more priceless gems of the world's mind and the crafts of past ages. Even a sight of the interior tempts a soliloquy upon the beauty of human creations. Yet a few brief words are needed, leaving to Conference times the realisation. The library owes its existence to the munificence of the widow of John Rylands, a great Manchester merchant; its erection commenced in 1890, from the designs of Mr. Basil Champneys. An absolutely free hand was given to erect what may be called the finest Gothic structure in England; no expense was spared, with the result that Manchester has a library which may claim comparison with the Bodleian Library at Oxford, or that of the Vatican. The control is vested in a body of trustees possessing broad powers, whose aim is to assist the student, cultivate learning and thus spread knowledge. Here is housed the famous Althorp Library of 3,000 early printed books; the Crawford collection of Oriental and Western manuscripts acquired in 1901; a collection of Bibles from the time of Wycliffe to the present day; imprints of the great classics, a Dante collection of 6,000 volumes, with early Dante manuscripts and early editions of the "Divina Commedia."

One sighs for the old Municipal Reference Library in King Street, once the Town Hall and now the site of Lloyds Bank. To house in a series of Army huts the volumes of a public library seems a travesty; but such is the case in Manchester, and has been for many years; the consummation of the new Reference Library is an end more than devoutly wished. The collection, as befits a provincial library, is particularly rich in books which refer to the social, political and industrial history of Manchester. Music has its separate department, initiated by the gift of numerous scores by a Manchester musician—contained in the Watson's Music Library. Particular mention should be made of the Commercial Library in the Royal Exchange.

Art Galleries and Public Sculpture

The City Art Gallery, in Mosley Street, was the old Royal Manchester Institution, built in 1825 from designs of Sir James Barry, the architect of the Houses of Parliament. The Gallery is particularly rich in examples of the pre-Raphaelite School. The Branch Gallery

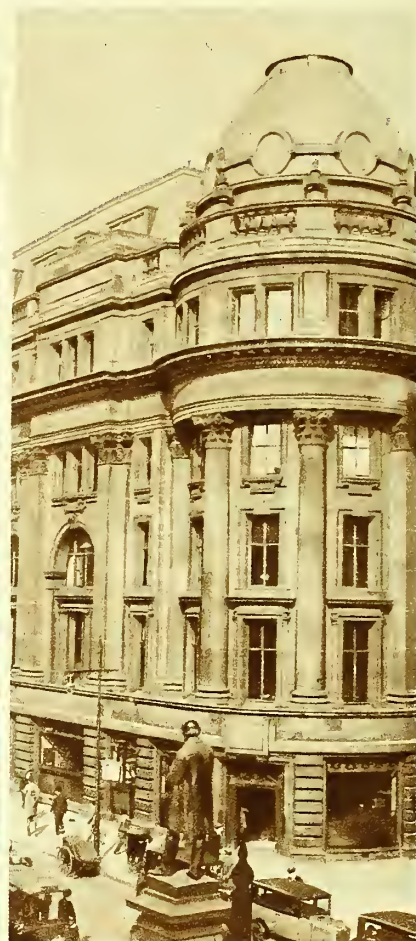
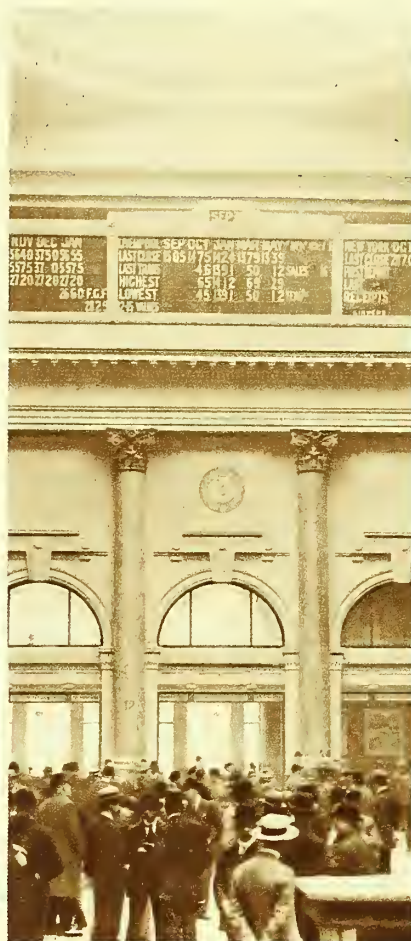


Main Entrance to the magnificent John Rylands Library and the principal Reading Room



Dining hall and cloister court of the 17th century Chetham Hospital and Library

TWO CENTRES OF LEARNING AND LITERATURE IN A CITY OF COMMERCE AND INDUSTRY



COMMERCE LEARNING AND THE CHURCH

Top left, The ancient Cathedral. Centre and right, Interior and exterior partial views of the Exchange.

Below, The Victoria University buildings, incorporated 1903, in succession to Owens College

Photos, Carbonara Co.
Allied Newspapers and
J. Dixon Scott

at Heaton Park has a unique collection of dolls and dolls' houses—dating back to the seventeenth century. The pictures comprise examples of early English water-colours. The Whitworth Art Gallery, in Oxford Road, near the university, was founded in 1889 under the terms of the will of Sir Joseph Whitworth. It possesses a copious collection of water-colour drawings of our native school, together with Flemish, German and Italian engravings. The Queen's Park Art Gallery is perhaps the most interesting of all Manchester's Art Buildings. The interest centres in a series of exhibits which afford a real conception of what Manchester has been from ancient times to the present day.

Outdoor sculpture does not assimilate itself to the atmosphere of South-East Lancashire; and Manchester is probably the least suitable location for examples of the sculptor's art. The Piccadilly open space—opposite the site of the old Infirmary—has a voluminous statue of Queen Victoria, flanked by those of Peel, Dalton, Wellington and Watt. Albert Square—opposite the Town Hall—has its tribute to good Prince Albert, accompanied on the southern side by statues of Gladstone and Oliver Heywood (a distinguished Mancunian), on the northern side are John Bright (at one time member of Parliament for Manchester), and Bishop Fraser (Lancashire's great Bishop). Finally, as becomes a democratic community, is the magnificent statue in granite to Oliver Cromwell (opposite the Cathedral).

The Northern Counties are musical practically, that is, the cult is to play an instrument, not merely to listen to playing by others; hence the innumerable brass bands in Lancashire and the adjoining West Riding of Yorkshire, many of which have earned a world reputation. Manchester passes beyond even this by possessing one of the finest orchestras in the world—the Hallé orchestra—while individual soloists in string, wood and brass instruments find their artistry in demand everywhere.

Ecclesiastical Manchester

MANCHESTER Cathedral—"the old Church," as it is sometimes called by old inhabitants—occupies a rising knoll opposite the location of the ford which came over the Irwell from Salford. It is fair to assume that a church existed here in Anglo-Saxon times, and the assumption is fortified by the discovery in 1871, during alterations to the south porch of the Cathedral, of a slab of stone beautifully carved with the figure of an angel holding a scroll, upon which is an inscription deciphered as "In manus tuas Domine commendo spiritum." Opinion indicates that this may have been a stone of dedication of Anglo-Saxon work dating from the eighth or ninth century. Evidences exist of a church prior to the thirteenth century, and there are indications of reconstructive work in the early portion of the fourteenth century. In 1421 the Parish Church, as it then was, was collegiate. This meant the establishment of a school for clergy, who could fill up the gaps in the ministry caused by the Black Death; the original foundation consisted of one warden, eight fellows, four clerks and six choristers.

Manchester was originally in the Mercian diocese of Lichfield, but was transferred to that of Chester on its formation in 1541, and remained under this jurisdiction until Manchester became an episcopal seat in 1847. The present Cathedral—whose claims to many unique features of architectural detail cannot be dealt with here—is conspicuous in several particulars which may be of general interest. The double naves give a pleasing sense of breadth when viewed from the south door. The carved stalls in the choir with the misericordes are perhaps the most beautiful examples of mediæval woodwork in the world, and date about 1485; if no other portion of the Cathedral is seen by visitors, the choir with the whole of its woodwork should not be passed over, and afterwards the renowned "Huntingdon" brass, a memorial to the first warden, should be seen. The church was one of seven in the country which possessed right of sanctuary; owing to gross abuse this

right was withdrawn in 1541 and given to Chester. The original dedication was to St. Mary; on rededication after collegiation this was continued as to "Our Lady, Saint George, and St. Denys." A chantry chapel existed on the Old Bridge (near Messrs. Woolley's warehouse), which the Court Leet records of 1573 describe as being used as a dungeon.

Pharmacists who have a liking for ecclesiastical architecture should spare a few moments to inspect the exterior of St. Ann's Church, off St. Ann's Square; the Corinthian style of this structure is striking in its adaptation for sacred use. The church, consecrated in 1712, was founded by Lady Anne Bland, of Hulme Hall. John Wesley preached here in 1738. The Roman Catholic Communion has its See in the neighbouring city of Salford. The Præmonstratentian Order, with its presiding Abbot of Welbeck, has its basilica in the Miles Platting district, while the Franciscans are domiciled at Gorton. The variety of communities which Manchester draws to itself, through its far-flung commercial interests, is seen in the many religious bodies which establish places of worship. The oldest non-conformist church in Manchester is the Unitarian Church in Cross Street, built in 1693 for the Rev. Henry Newcombe, a former minister of the Parish Church. This was partially destroyed in 1715, leaving only the walls, which (still standing) have been described as "the best grickwork to be seen in Manchester."

A unique feature of Manchester's religious life is the annual Whitsuntide processions of the various Sunday schools. The Church of England scholars march on Whit Monday to Albert Square, and the children attending the nonconformist schools on various days during Whit week, generally in arranged localities: the Roman Catholic community complete this pleasing feature on Whit Friday. The processions include the oldest scholars—many have "walked" for almost half a century or more—and the youngest novitiate. To see these huge assemblages of young and old is worth while, for added to the blaze of colour in attire, banners and streamers, the precision with which the whole assemblage and dispersal is performed would do credit to a Brigade of Guards. The community singing by thousands of children in front of the Town Hall, followed by silent moments for prayer and the pronouncing of the Benediction, remind the onlooker of a continental religious festival.

Social service in Manchester may opportunely be linked with its religious work. Many of these social organisations have learned methods of administration which have formed the basis of organisations for similar institutions in all parts of the world. This note can only make reference to those which are of general interest. First place must be given to the Royal Infirmary, established originally in 1752 in Shudehill and now occupying a long frontage to Oxford Road near the University; it is flanked by the Hospital for Women and Children and the Eye Hospital, while the Christie Cancer Hospital is in the rear. The Ancoats Hospital serves a poor and densely populated area; a like character pertains to the Jewish Hospital. Then come the special hospitals for babies, ear and nose, dental treatment, etc., to which must be added the large medical institutions which have recently passed from the control of the old Boards of Guardians. Apart from purely religious and social service organisations, Manchester has been the starting point of many of the great movements for the amelioration of wrongs, both at home and abroad. To those pharmacists and others who come to the Conference it offers, in the words of the vernacular, a "reet gradley time."

The Royal Infirmary

THE Royal Infirmary was founded in 1752, and has been very closely connected with the medical and pharmaceutical history of Manchester since that time. It is one of the largest hospitals in England and Wales; its influence is widespread owing to its geographical position in the centre of the most important industrial area in the country, and

to its connection with the very large medical school of the Victoria University. When the British Pharmaceutical Conference was last held in Manchester, the Royal Infirmary was in Piccadilly; but in December 1908 it was removed to the Whitworth Park district of Oxford Road. The annual expenditure in 1905 was £20,000; in 1930 it amounted to £131,150. Last year there were 11,300 in-patients; the number of casualty patients was 50,960, with out-patient attendances of 388,798. The attendances in the massage and electrical, the x-ray, electro-cardiographic and sunlight departments were 146,940; and 12,460 operations were performed in the nine theatres. The number of available beds in the Infirmary and its Convalescent Hospital is 776, and in the near future another branch hospital will provide over 300 beds.

In these days of new products it is interesting to note that soon after the Royal Infirmary was established, cod-liver oil was introduced for medical purposes in this hospital. This can be regarded as the first research work done; and though this was the first time the oil had been used in this country, it was more than fifty years before it became a commercial article. Until about the year 1850 the dispensary (then called "the drug shop") was in charge of an apothecary. The work of the home apothecary was then divided and given to a resident medical officer and a chemist. Until some years ago the chemists or pharmacists were described as dispensers; but since then the regulation states that the holder of the office controlling the Pharmaceutical Department must be a duly qualified pharmacist registered under the Pharmacy Acts, and he is now officially described as the pharmacist. The title "dispenser" is now used to describe persons who do not possess the pharmaceutical qualification. All the members of the dispensing staff of the Manchester Royal Infirmary, however, are pharmacists. A high standard is required; it is claimed that the pharmacy of the Infirmary has advanced in sympathy with the forward movement which has taken place in hospital matters during the last twenty-five years, and the pharmacists are very proud of their section of hospital work.

The dispensary and its laboratories and stores are extensive, and many visitors are received each year. Pharmacy naturally takes first place in the department; but in addition surgical dressings and theatre requirements are of major importance. It is not possible to describe in detail here all the work performed in the Department; but it is noteworthy that, contrary to former practice, a live interest is now taken by the pharmacist in every phase of the work of hospitals, and wherever possible assistance is given to other departments. There is no doubt that this change has been of advantage to pharmacy, and has materially assisted the recognition of hospital pharmacy as specialised work. Many pharmacists now take up this work as a permanent occupation, and there is reason to believe this feature will be extended in the future. A point of interest to pharmacy is that the management, recognising the specialised character of present-day hospital pharmacy, do not accept pupils, although frequent applications are received, believing that these students should have their preliminary training under a pharmacist in a retail and dispensing pharmacy.

Mr. W. H. Butchers, the present chief pharmacist, who was appointed in 1904, is a native of Birmingham. He was educated at the Magnus Grammar School, Newark-on-Trent, under the Rev. Dr. E. S. Noakes, now Archdeacon of Derby, and was afterwards articled as a pupil to Sir (then Mr.) Leonard Rowland, of Wrexham. Mr. Butchers has been a close student of pharmaceutical affairs; although he does not always agree with the pharmaceutical authorities, he has been a loyal member of the Pharmaceutical Society since qualification. During recent years he has made a hobby of the study of hospital matters in general, and of the Manchester Royal Infirmary in particular. Mr. Blackburn and Mr. Kirkby, two local pharmacists well known to readers of THE CHEMIST AND DRUGGIST, are attached to the staff as honorary consulting apothecaries. The department is very fortunate in that Mr. F. G.

Hazell, the general superintendent, takes an exceptionally keen interest in its wants and in the problems which confront pharmacy in hospitals and elsewhere.

The City of Salford

A FEW lines must be added on the old and prosperous city on the other side of the Irwell. As the Domesday Book records, Salford, before the Norman Conquest, belonged to King Edward, and included within its boundaries a forest three leagues square. Its market dates from 1228, and its charter (still in the possession of the Corporation) from about the same year. It may be remembered that the seven-hundredth anniversary of the granting of this charter by Ranulph, Earl of Chester and of Lincoln, was celebrated last year by a highly successful pageant; one outcome of the celebration was the issue of "Salford through the Ages," an excellent history written by Mr. Charles P. Hampson, of which we have availed ourselves in compiling this paragraph. Salford has not preserved many of its ancient buildings, but there are a few that appeal to the antiquary and the lover of history. Among these may be mentioned Ordsall Hall, dating partly from the fourteenth century and associated with various stirring incidents in the Tudor period; the Old Bull's Head in Greengate, also of the fourteenth century, and Kersal Cell and Kersal Hall, of similar antiquity.

Some amusing side-lights on the communal life of the borough in the sixteenth century are to be found in J. Tait's "Records of Some Salford Portmoots," published in 1921. Dr. Tait tells us:—

"Assaults and affrays and rescues (of prisoners or goods taken in distraint) are the most serious crimes that come before the court. They are punished usually by fines varying from one to two shillings. Small amercements of from 2d. to 6d. were imposed upon common scolds, breakers of the assize of ale, those who cut their neighbours' hedges, or dug holes in the roads (to get clay or daub for their houses), and owners of swine who did not keep them yoked or ringed to prevent their destroying their neighbours' corn. In the last case the penalty was normally 3d. for each pig. . . . The meagre calendar of these courts is reflected in the petty profits which the crown drew from them in fines and amercements. In one year the total amount was only 3d.; the November court in 1522 had not a single presentment before it, and the average annual profit in the five years for which the records are complete was under 5s. . . ."

About a hundred years later, in 1654, we read that "Joane, the wife of John Ashton, hath lived out of this towne for the space of five years . . . and she has now lately crept into this towne . . . and doth now begin to brew without licence." The offending lady was ordered to depart within a month "upon paine of five pounds." Mr. Hampson shows by quotation that Salford shared in the vogue for drinking and bathing in mineral waters in the eighteenth century. By this time it was taking its part in the growth of industry that was a feature of English life in the latter years of that period. Silk weaving had been known there as early as the seventeenth century; and the establishment of an important iron foundry was noted by Aikin in 1795. The population of Salford at the first census of 1801 was 13,611; in an official handbook for the current year it is estimated at 236,500. With the nineteenth came many changes. Salford claims to be the first borough to have introduced gas lighting. Local industries increased and multiplied, and prosperous merchants purchased sites for comfortable houses in more or less rural surroundings away, but not too far away, from their business premises. At one time Eccles Old Road numbered among its residents seven members of Parliament. Peel Park, a delightful amenity, was purchased by the Corporation in 1846; and finally came the Manchester Ship Canal, with other developments as its consequence. Salford received a Royal charter of incorporation in 1844, and was promoted to the rank of a city in 1926. Among the numerous people of distinction with whom the Royal borough has been associated are J. P. Joule, Frances Hodgson Burnett, Abraham Stansfield, Philip James Bailey, David Livingstone and Thomas Agnew.

Brief Accounts of Some of the Most Important Firms in a Centre of Manufacturing Pharmacy

MANCHESTER PHARMACEUTICAL INDUSTRIES



MANCHESTER is the centre of one of the most important industrial areas in the world, its growth in wealth and influence being largely due to the development of the cotton trade. This industry, however, although the largest, is only one of many carried on in and around the city. Engineering in all its branches has become firmly established, while in the chemical industry—and Lancashire is stated to be the first place in Great Britain for the manufacture of chemicals—Manchester has its full share. The principal exports are manufactured cotton and woollen goods, yarns, machinery, locomotives, implements, tools, hardware, earthenware, paper-making materials, chemicals, coal, salt and pitch. Much of Manchester's commercial success is due to its strategic position, enhanced considerably during the past thirty years by the development of the Ship Canal, which established direct maritime connections between the city and the principal ports of the world. The pharmaceutical industry, with which this article is solely concerned, has reached a high stage of development in the Manchester area. The following paragraphs, arranged alphabetically, give brief accounts of the activities of the most important firms, together with, in most cases, information as to their origin and growth.

Robert Bailey & Son, Ltd.,

commenced business as a private firm of surgical dressings manufacturers in 1910, a branch of the old-established firm of Robert Bailey & Son, cotton and cotton-waste merchants, Haslingden. The business grew steadily till 1916, when new and larger mills were acquired at the present address, where it was possible to take advantage of a more abundant labour supply and better transport facilities. Stockport is situated about the centre of the British Isles and is served by three main line railways, and is in direct communication with all the ports, especially on the Manchester Ship Canal and Liverpool. In 1920 the surgical dressings business was incorporated as a public limited company, the first directors being Mr. Albert Bailey (chairman), Mr. Albert A. Bailey and Mr. Edward G. Burtinshaw, all of whom are still acting in that capacity, together with Mr. Frederick Tattersall. The company manufactures all descriptions of surgical dressings, and owing to the great care taken in every process, a high state of perfection is attained. This is shown by the steady increase in demand for its products, especially Zorbo absorbent cotton wool, Zorbo first-aid dressings, etc., and Steraid patent series of absorbent and medicated dressings. The company is known in all parts of the world wherever surgical dressings are used, and numbers amongst its clients Government Departments, Dominion and Colonial Governments, public assistance committees, the principal hospitals, institutions and infirmaries, wholesale and export houses, and many others.

Benger's Food, Ltd.

Manchester has always been the home of Benger's Food, and its origin was largely due to the pioneer work of Mr. F. B. Benger, Ph.C., F.I.C., F.C.S., in collaboration with Sir William Roberts, M.D., F.R.S.

Incidentally, Mr. F. B. Benger was secretary of the British Pharmaceutical Conference in 1871-1884, and president in 1888. Medicine and pharmacy co-operated in overcoming the difficulties previously encountered in the production of an artificially-digested or peptonised food suitable for invalids. The initial result of the investigation was the production of the well-known liquor pancreaticus, which, in Sir Wm. Roberts' words, "is an almost faultless pharmaceutical preparation possessing the diastatic and proteolytic properties of the pancreas in a highly concentrated degree." This product, moreover, represented one definite advantage over gastric digestion, inasmuch as the pancreas can digest starches as well as proteins; furthermore, as distinct from ordinary pepsin digestion, liquor pancreaticus was found, when added to milk, to cause approximately little disturbance of its taste and appearance. Such, briefly, were the laboratory experiments which formed such an important epoch in the preparation of foods for invalids, and the classical and widely-known Lumleian lectures on "The Preparation and Use of Artificially Digested Foods," delivered before the Royal College of Physicians in 1880, served as an introduction to what is now a business of world-wide repute. The original research work in connection with the manufacture of Benger's Food was carried out in a pharmacy in Exchange Street. So rapidly, however, did the medical profession recognise the advantages offered in this new product that within a few years Otter Works, Manchester, was established, and while increasing demand called for considerable extensions and introduction of the most up-to-date manufacturing and packing plant, Otter Works still remains the home of Benger's Food. In Otter Works—an essentially modern factory—the whole process of the preparation of Benger's Food involves no contact with the hand. Conveyors carry the filled tins to be labelled and packed for home and export. Special precautions are taken to ensure the fresh condition of the food on reaching the consumer in whatever part of the world he may be. But Benger's Food is not the only product of Otter Works—liquor pepticus, liquor pancreaticus (referred to above), peptonised beef and peptonised chicken jellies, essence of rennet and peptonising powders are included in the many important dietetic preparations produced. Association of the name "Benger" with Manchester is suitably recorded by the establishment of the "Benger" pharmaceutical and pharmacological laboratories at the Manchester University dedicated to the memory of the late Mr. F. B. Benger in 1929.

F. C. Calvert & Co., Ltd.,

is a firm requiring no introduction to the drug trade. Its history is synonymous with the gradual evolving of purified carbolic. In 1847 the French chemist Laurent first pointed out an easy method of extracting carbolic from coal tar by submitting the light oils to a fractional distillation, and then treating the product with a concentrated solution of potash. The resulting product, however, was a mixture of various liquids similar in their properties and composition to carbolic, which itself was only present in small proportion, and though Laurent succeeded in isolating a

solid carbolic, his method was too complicated and too expensive for commercial use. In 1847 Mansfield, and towards 1856 Boboeuf, made known processes which were merely modifications of Laurent's. By these processes a very impure product was obtained, from which it was difficult to extract the pure carbolic. This impure product was the starting point of Dr. Calvert's own researches, and in 1859, working in partnership with Clift and Lowe, he found that if instead of the light or heavy oils of tar, the impure benzenes of commerce were treated with weak alkaline solutions, a semi-fluid blackish product was obtained, which contained 50 per cent. of real carbolic, and which could be separated in part by careful distillation. The product thus obtained was used till 1861 for the manufacture of colours derived from carbolic. In 1864 Dr. Calvert was able to supply considerable quantities of carbolic fit for medicinal use while two years later, as a result of further research, he succeeded in producing a carbolic practically free from all disagreeable odour and tarry flavours, fusing at 42° C., boiling at 182° C., and soluble in twelve and a half parts of water. In that year another improvement was made, raising the crystallising point to 85° F., and two years later a fusing point of 93° F. was reached. It was then supposed that the pure acid had at last been obtained, but in 1866 Dr. Calvert discovered a method by which the crystallising point was again raised, this time reaching 106°-107° F. In 1867, in a lecture delivered before a French society, Dr. Calvert gave a lucid account of the work of Laurent, Mansfield and others in attempting to manufacture carbolic acid, indicated the steps by which his own firm had succeeded in evolving a pure product, and summarised its uses in medicine and commerce. Perhaps the most interesting feature in the present-day factory is the new laboratory (fully described and illustrated in *THE CHEMIST AND DRUGGIST*, August 9, 1930, p. 192). A visit to the soap-making department is well worth while, as the whole process from the mixing of the ingredients to the packing of the finished products may be examined. Ingenious machinery has been installed for many of the operations, and particular interest attaches to a special machine for filling Calvert's carbolic tooth powder into tins. The firm's carbolic preparations have been awarded more than 100 gold and silver medals and diplomas (in each case the highest award) at many of the important international, sanitary and other exhibitions. The preparations are obtainable practically all over the world, being in constant demand in Europe, Egypt, South Africa, East and West Coast of Africa, India, Ceylon, Straits Settlements, Burma, China, Japan, Australia, New Zealand, Canada and North and South America.

The Corrugated Packing Materials Co., Ltd.,

Ambrose Street Mills, West Gorton, is a firm whose products, although they cannot be classed as pharmaceutical, are essential to chemists, both retail and manufacturing, who desire to protect their goods against risk of breakage. Perhaps the most important material produced in the factory is corrugated paper, which is sold either in cut pieces or in roll form. Boxes, cartons and bottle sleeves are also manufactured, the largest proportion being absorbed by the drug trade. A representative of *THE CHEMIST AND DRUGGIST*, who visited the factory recently, was shown first the paper stockroom. Many tons of paper in rolls, as received from the mills, take up practically the whole of this floor. Near by are three or four large corrugating machines, which, our representative was informed, operate continuously, producing miles of corrugated paper each week; a grease-proof variety is also made, but little of this finds its way into the drug trade. The paper is processed by passing it between cylinders, where it is heated and one side pressed into the familiar corrugated shape, the flat portion being attached at the same time. The finished rolls are removed from the machine and allowed to dry before being cut. The attention of our repre-

sentative was drawn to a recent innovation, a double-faced corrugated paper, specially prepared for making extra-strong boxes. Further stages of manufacture are carried out in the upper part of the building, where a large staff of girls is employed on such operations as stitching, slotting, etc. Machinery is utilised for practically every operation, much of the plant being adapted to specialised work.

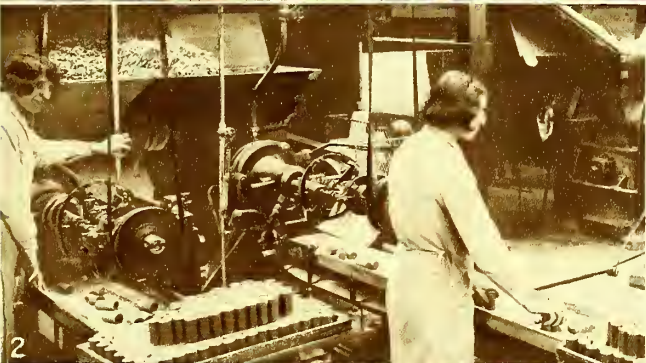
Cussons, Sons & Co., Ltd.

Some little distance from Manchester, in rural surroundings, is situated the Kersal Vale factory of Cussons, Sons & Co., Ltd., makers of fine soap and perfumery. The present works were taken over in 1909, and during the past ten years have been the scene of continual extensions and improvements, until to-day they constitute one of the most up-to-date soap-making and perfumery plants in the country. The buildings are constructed on modern lines with ample facilities for further extension. The works at Kersal Vale have been described as "a modern factory with modern ideas," and the visitor, before the tour of inspection is over, feels that this description is more than justified. The first impression on entering the premises is one of spaciousness. From a balcony (which also houses the executive offices) running round the central floor, the visitor looks down on a vast expanse devoted to every phase in the production of toilet soap. Here can be seen ingenious machines which stamp, wrap and carton toilet soap with amazing rapidity. Here also is a miniature soap-making plant which is used for demonstrations and exhibitions. In other departments the manufacture of perfumery and toilet requisites on a large scale may be examined. Machinery of modern types plays a large part. On entering the latest addition to the premises, a huge four-storey building overlooking the river Irwell, the visitor sees plant for the manufacture of cardboard and tin boxes of every description, while close at hand is situated the machinery for manufacturing Bakelite caps, which are used on the bottles of toilet preparations. The visitor soon realises that the factory is almost, if not entirely, self-contained and self-supporting. After seeing the soap-flake machines and visiting the artists' room, where display material and show cards are produced, the visitor returns to the restful atmosphere of the show-room, where a full range of the company's products may be examined. This room is tastefully decorated and the glass showcases display their contents to the best advantage; the walls are decorated with fine examples of the work of the company's staff artist. Among the varied range displayed in the showcases are bath crystals, brilliants, face powders, toilet powders, perfumes, lipsticks, soaps—in fact, the whole scope of the perfumer's art is represented. In addition to their Kersal Vale works, up-to-date factories are also maintained at Radcliffe, Lancs., Tower Hill, London, and Wembley, as well as showrooms, and offices at Norwich House, Southampton Street, High Holborn, W.C.1.

Robert Gibson & Sons, Ltd.,

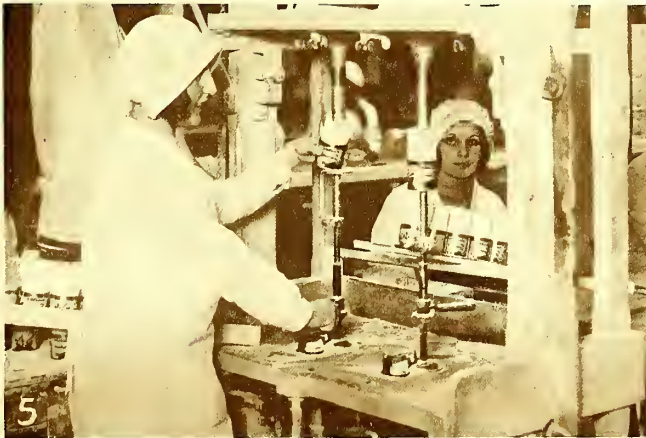
Erskine Street, Hulme, have a reputation extending over three-quarters of a century in the scientific manufacture of pastilles, tablets, lozenges and chemists' confectionery. The business was founded by the late Mr. Robert Gibson, who was born at Carlton-on-Trent in 1832. In 1845 he was apprenticed to a chemist, and in 1850 moved to Manchester, serving for two or three years as assistant with Mottershead & Roberts in St. Mary's Gate. In 1854 he opened a pharmacy in Preston Street, and thirteen years later purchased a small building in Erskine Street, Hulme, where he commenced the manufacture of medicated lozenges. Success smiled upon the venture and he was soon obliged to make extensions by the purchase and alteration of cottages adjoining the works. Still the business grew, and in the end Mr. Gibson erected the large building now occupied by the

WORKS OF CUSSENS, SONS & CO., LTD.

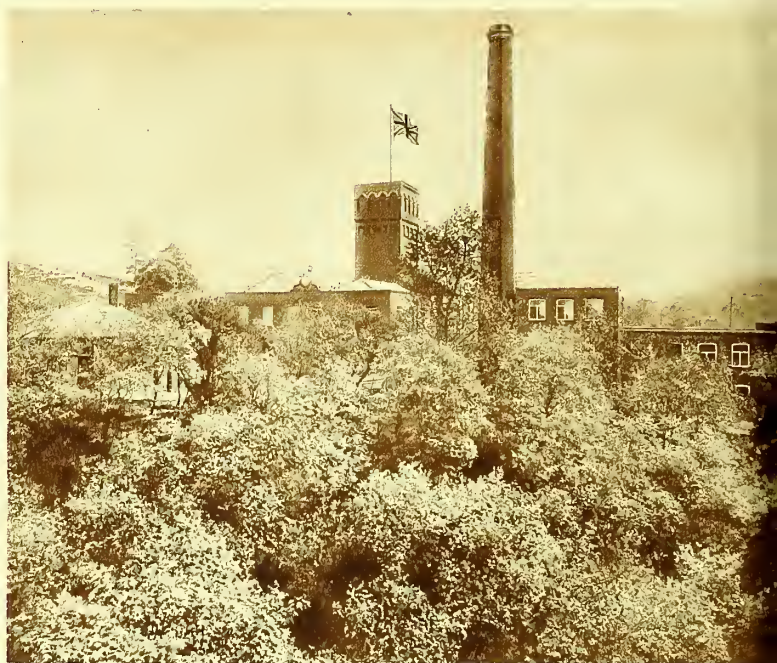


1, Soap stamping. 2, Soap making. 3, A box-covering machine.

4, View of one of the main floors

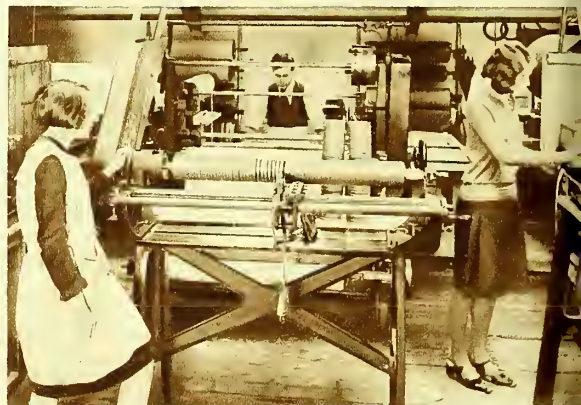
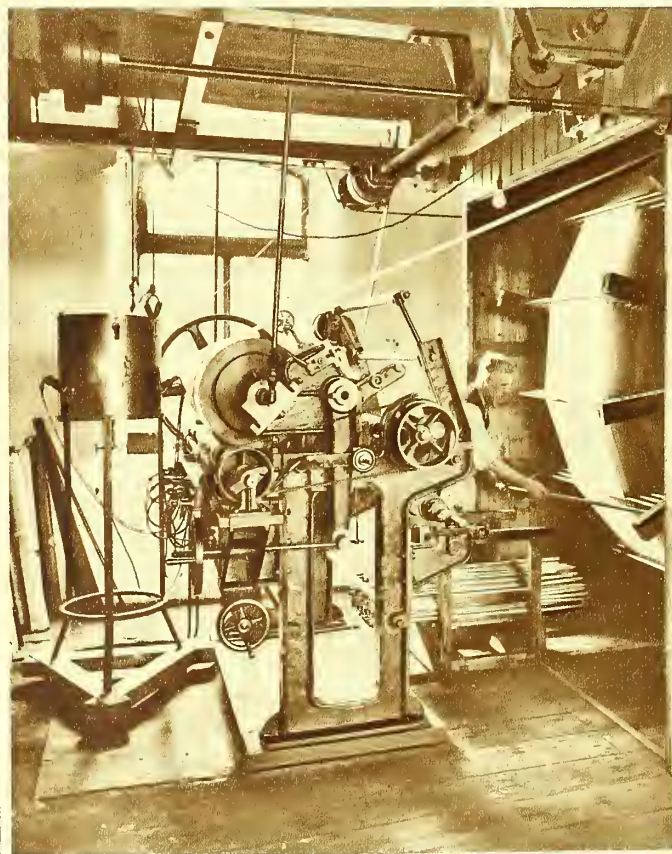


5, Filling "White Cross" baby powder.

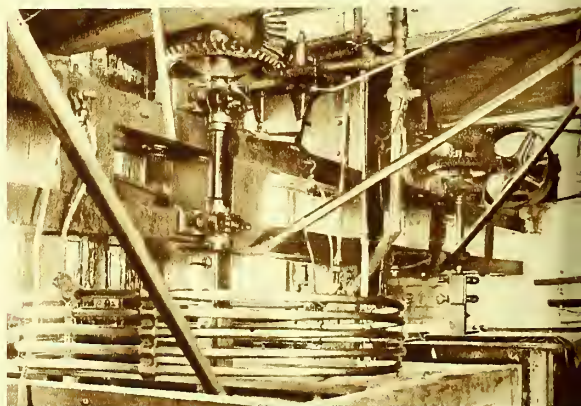


Scenes in Manchester

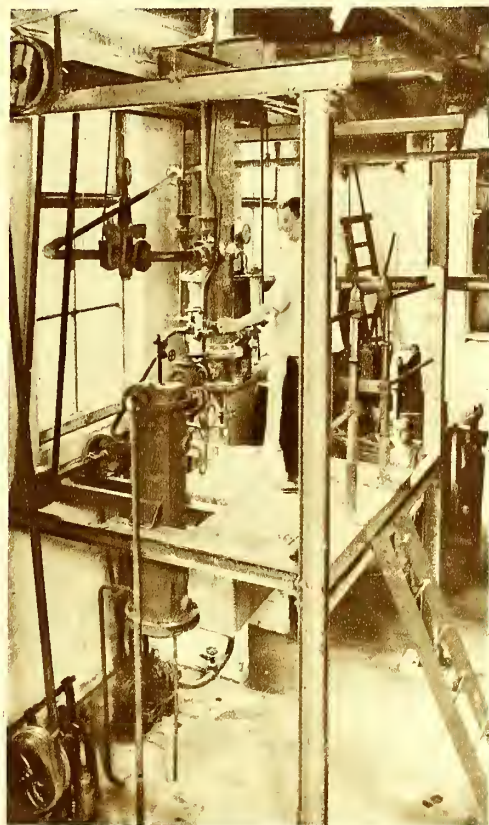
Left, filling tooth powder (F. C. Calvert & Co., Ltd.) Above, works of Thomas Kerfoot & Co., Ltd., Bardsley Vale



Plaster cutting (William Mather, Ltd.)



Peppermint essence vats and still (Kay Brothers, Ltd.)
Left, special plaster machine (William Mather, Ltd.)



Pharmaceutical Factories



river scene at Bardsley Vale (Thomas Kerfoot & Co., Ltd.)
Right, pastille-making plant (Robert Gibson & Sons, Ltd.)



large stamping machines (Robert Gibson & Sons, Ltd.)



paper-making (Kay Brothers, Ltd.) Right, taking temperature by sight in glass works (Frederick Hampson)





ASPECTS OF VENO

DRUG CO.'S WORKS

Left, grinding machinery and tablet-counting machine.
Above, packing Veno's Cough Cure Below, labelling
Dr. Cassell's tablets and filling Germolene



company, which he called Carlton Works, after his birth-place. The managing director is now Mr. F. H. Gibson—a son of the founder—who is assisted on the board by his son, Mr. H. H. Gibson. The business is one of the largest exclusively devoted to the manufacture of chemists' confectionery; agencies are maintained in America, New Zealand, Australia and South Africa as well as a factory in Canada.

Thos. Guest & Co., Ltd.,

commenced business in 1869 under the auspices of the late Mr. Thomas Guest. The present limited company was registered in 1915 and the directors are now Mr. Ernest Allon-Bulmer, Mr. Fred Marland and Mr. Robert Baker. As one of the representative houses in its particular lines, Thos. Guest & Co., Ltd., can be credited with highly successful specialisation in such pharmaceutical products as tablets, lozenges, pastilles, salines and packed proprietaries. Since its inception the business has shown steady growth, and on three occasions it has been necessary to remove to larger premises. During 1903 the factories were totally destroyed by fire, and although some dislocation of business ensued, the progress of the firm was in no way impaired. The name of Thos. Guest & Co., Ltd., is now so well established that it has become a synonym for quality and reliability. The factory in Carruthers and Piercy Streets, Ancoats, is an education in organisation and equipment. When a representative of THE CHEMIST AND DRUGGIST called recently he found in course of construction a new suite of offices and laboratories necessitated by the great extension of business. New plant has also been introduced for the preparation of special tablets. The factory is full of interest; the processes of manufacturing pastilles, lozenges, tablets, etc., being carried through from the raw materials to the finished products. Batteries of tablet-making machines operate continuously, while in other departments skilled workers turn out large quantities of lozenges, each stamped and cut by hand. The drying rooms contain vast stocks of lozenges and pastilles stacked in trays. The working departments are cheerful and well ventilated, and the staff adequately catered for. The late Mr. Thomas Guest, J.P., was not only well known in trade circles, but had various other interests in commercial and public life. He was on the Commission of Peace for the City of Manchester, a member of the board of directors of the Manchester Guardian Society for the Protection of Trade, and of the Manchester Chamber of Commerce (Sugar Section), and on the Board of Ancoats Hospital.

Frederick Hampson

is the trading style and title of a glass-manufacturing business carried on at Perseverance Glass Works, Duncan Street, Salford, and elsewhere by three sons of the late Alderman Frederick Hampson, J.P. The business was established eighty years ago, and it has expanded till it now includes two factories, covering together three acres, and a wholesale and retail china and glass department in Regent Road, Salford. The late Mr. Hampson, to whom this notable development is chiefly due, was a remarkable man, and, in the words of the "Salford City Recorder," his life "was a triumph of endeavour and resolution." Notwithstanding the obvious drawback of beginning to earn his living at an age when most children are moving up to a higher form at school, he became a leading figure in the public life of Salford, where he filled the office of Mayor in 1920-21. His social and philanthropic benefactions ensured him a place of his own among the community, and he has left a lasting memory in municipal affairs. The firm is widely known as one of the largest manufacturers of medical and other containers; this reputation is largely accounted for by the fact that it has kept its machinery consistently up to date. In this way all demands on mass production on the one hand or highly specialised work on the other are easily met.

Thomas and William Henry,

East Street, Manchester, are known all the world over as the manufacturers of Henry's magnesia. The inventor was Mr. Thomas Henry, who was born at Wrexham in 1734, and, according to the late Mr. Slugg, was apprenticed to a surgeon-apothecary of that town. Subsequently he filled the situation of assistant to Mr. Malbon, a visiting apothecary at Oxford, and then settled at Knutsford. After five years he removed to Manchester, and succeeded to an apothecary's business in King Street. He died in 1816. In 1771 he communicated to the Royal College of Physicians of London his improved method of preparing magnesia, but had, at that time, no intention of engaging in the manufacture himself. Some of his friends, however, urged him to supply his magnesia, and having been assured by several eminent physicians of the day that they saw no objection, he set up a factory in East Street, where the magnesia is still made. The William Henry whose name is associated in the title of the firm was a son of Thomas Henry, and qualified as an M.D. of Edinburgh and became an F.R.S. He assisted in the manufacture of the magnesia, and this naturally directed his thoughts in the direction of chemistry. He published an "Epitome of Chemistry," which passed through several editions. He died in 1836. Henry's magnesia is mentioned in the Schedule of the Medicine Stamp Act, 1812. The peculiar heaviness and smoothness of Henry's magnesia has never been successfully imitated, and so it comes about that a medicine invented so long ago as 1771 is in demand by both the medical profession and the general public in all parts of the world.

Hough, Hoseason & Co., Ltd.,

was founded in 1899 by Mr. R. Hough, chemist and druggist, and Mr. J. H. Hoseason, Ph.C. The latter was lecturer in materia medica at Owens College, Manchester, where Mr. Hough received his pharmaceutical training. The business has progressed steadily, and now owns up-to-date works at Pendleton and a four-storey building of modern offices and showrooms at Bridge Street, Manchester. A representative of THE CHEMIST AND DRUGGIST, on visiting the Bridge Street premises recently, was shown into the spacious showroom, wherein were displayed, in a most attractive manner, many of the products of the firm. Large show-cases were devoted to the display of fine pharmaceutical products, whilst in others were exhibited attractively packed lines for chemists. A portion of the showroom was devoted to surgical instruments, splints, ligatures, etc., a branch in which the company specialises. The ground floor of this building contains the offices, and other floors are devoted to showroom and patents department. On the top floor is kept a large variety of galenical preparations for the waiting order and despatch departments. The works at Pendleton are worth a visit by those interested in the large-scale production of galenicals. Our representative was conducted through the various departments by the chief chemist, who explained the processes in detail. In the wet room, a department admirably suited for its purpose, were noticed large reserve stocks of ointments, tablets, pills, etc. Other portions of the building were devoted to capsule and suppository making, both by machine and hand. A feature of particular interest is the use of automatic scales; these time-saving machines are installed throughout the works. In an adjoining department a battery of automatic tablet compressors was running to capacity, while a little further on were seen modern tablet-coating pans. In the steam laboratory and pan-house galenicals were being prepared in large quantities under strict supervision. One of the most interesting features of this truly pharmaceutical factory is the large stock of crude drugs carried. Original bales of roots, barks, etc., may be seen, and the various processes followed, from grinding and milling to the presentation of the elegantly finished products.

Jewsbury & Brown, Ltd.

The original style of the firm was Jewsbury & Whitlow. The two young men who comprised the partnership were apprentices with J. W. Gaultier, a druggist, whose shop was at the corner of Tib Street and Market Street. They took premises only a few doors away from their old master, and began their joint career in 1826 in a shop which has just been razed in order to make way for Messrs. Rylands' new warehouse in Market Street. In a circular announcing their venture they stated that in addition to selling drugs and perfumery, etc., they were prepared to supply "Soda Water and Ginger Beer of the finest ingredients." This partnership came to an end in 1834, and Jewsbury continued the business alone until 1845, when he allied himself with an assistant—William Scott Brown—who had served an apprenticeship with John Lessey, a druggist of Piccadilly, Manchester. At that time Jewsbury was almost incapacitated by ill-health for active service in the business, and shortly afterwards he retired from the firm, which was henceforth continued under the now well-known name of Jewsbury & Brown. At a very early stage in the history of the firm it was highly esteemed for its pharmaceutical service and particularly for its aerated beverages, as appears from Gregson's humorous book, "Gimcrackiana," in which he exclaims:—

"To thirsty souls the name be ever dear
Of JEWsbury's 'Celebrated Ginger Beer';
And let the meed of cool-tongued praise be paid
To WHITLOW'S 'Effervescing Lemonade.'"

Mr. S. Brown was a man of great ability and with considerable business gifts, and highly esteemed in the town for his integrity. He raised the business to the front rank of Manchester pharmacy, and developed the mineral water branch of it so greatly that in 1856 special premises had to be taken to accommodate it. By 1861 another removal had been made to a much larger establishment at 44 Downing Street, at the corner of Grosvenor Street. Prior to the death of Mr. Brown in 1891, a large piece of ground had been purchased at Ardwick Green for the erection of a model mineral water manufactory. The building, however, was not begun until after his decease; it was completed in 1894. These extensive premises were fitted and provided with everything in accord with the very latest teachings. They also enabled the firm to make all their own essences and supervise the production of their fruit juices, so as not only to secure their superlative quality, but also to provide articles that are unique in character, and, accordingly, of the highest reputation. The research which has been regularly carried on in these laboratories has always kept Jewsbury & Brown in front of the recorded chemical knowledge of the day. The steadily increasing volume of trade compelled, in 1903 and again in 1914, further considerable enlargements of the buildings, plant and personnel. Jewsbury & Brown are known throughout the world for the high quality of their table waters, and for the excellent character of their non-alcoholic cordials and wines, as well as for their Oriental tooth paste. For the speedy and efficient services of their most numerous customers they have large depôts at Liverpool, Ruthin, Preston, Bangor, Bradford, Llandudno, Church Stretton and Cardiff. The great honour was conferred upon them by the late Queen Victoria, as well as by the late King Edward VII and by His Gracious Majesty King George V, of being Purveyors to Their Majesties. The firm of Jewsbury & Brown was converted into a limited company in 1923.

Kay Brothers, Ltd.,

St. Petersgate, Stockport, is derived from a family chemist's shop founded in 1786, almost a century and a half ago. The present firm was incorporated in 1887 and is well known to chemists at home and abroad. The factories, which occupy spacious premises behind St. Petersgate and on the bank of the River Mersey, are noteworthy on account of the ingenious machinery employed. The modern electrical unit-drive system is in operation throughout the works and nothing is done by hand for which an automatic substitute can be

devised. An elaborately-fitted machine shop is maintained in which a staff of engineers is constantly at work on the construction of new plant. Like most up-to-date firms of similar dimensions, Messrs. Kay Brothers find it economical to instal a private printing department; this includes the latest rotary and flat-bed machines, on which many thousands of cartons, labels and packing materials are printed daily. Other interesting features are the box-making and case-making departments. The comprehensive equipment of the latter includes special machinery for such operations as dove-tailing and planing, and which operate at a speed the eye can scarcely follow. Here, besides ordinary boxes, various specialised export packings are made. The manufacturing and selling activities, it is interesting to note, are controlled entirely by chemists whose constant endeavour it is to maintain the high reputation enjoyed by the firm throughout the trade.

Thomas Kerfoot & Co., Ltd.,

Bardsley Vale, Bardsley, stands in direct descent from one of the first chemists of whom there is any reference in the annals of Manchester. In 1797, John Cook founded a business which was taken over by Mr. Thomas Kerfoot in 1864. He quickly developed the manufacturing side and was a pioneer in the production of effervescent preparations and compressed tablets. He was first in this country to make chlorate of potash tablets, designing a machine which turned out six pellets at a time and a weight of 40 lb. a day. By 1873 larger premises became necessary, and in 1887 the retail business was relinquished. Three years later Mr. Kerfoot leased a building in Chester Street, Manchester, which was destroyed by fire in 1896. Within a week a factory at Bardsley Vale, about six miles beyond the city boundary, was purchased, and in twelve months the whole of the lost ground was recovered. During the intervening years extensions and developments have been almost continuous, floor space has been trebled and the firm's products have found their way to nearly every country in the world. In 1919 the firm became a private limited company, and the present directors are Mr. Thomas Kerfoot, his son (Mr. E. H. Kerfoot) and grandson (Mr. T. H. M. Kerfoot). The Garden Laboratories are aptly named. Few commercial concerns can have such a pleasant outlook, and it is difficult to avoid the impression that the healthy progress of the firm is due in some measure to the healthful surroundings in which its work is done. The grounds are about twenty acres in extent and are traversed by the River Medlock, here a charming, winding stream, flowing between well-wooded banks. The birds appear to appreciate the amenities of this rural oasis in an industrial area and about thirty varieties find sanctuary. From the botanical point of view also, Bardsley Vale has considerable interest, upwards of 150 species of wild flowers and trees being represented. The pharmaceutical products of Bardsley Vale are well known to chemists. Messrs. Kerfoot have an enviable reputation for lozenges which goes back to the days when this form of medication was a novelty. During the past forty years, it is stated, enough Sweet Lips cachous have been sold to form a line from London to Sydney. During the war Kerocain was widely used by British and allied medical services. Vapex, introduced in 1915, is now known in practically every civilised country.

William Mather, Ltd.,

Dyer Street, Hulme, is a firm of great repute in connection with the manufacture of medical plaisters. In the first number of THE CHEMIST AND DRUGGIST, published in 1859, there is an advertisement by William Mather, which states that the business was established in 1826 and carried on in Manchester and London. A large wholesale drug business was run in conjunction with the manufacture of plaisters and druggists' sundries. Mr. William Mather died in 1880, and the concern was then divided; the manufacturing part of the Manchester business was taken over by Mr. Mather's son, who died in 1895. Owing to the development

of trade, incorporation as a limited liability company was decided upon in 1894, when Mr. A. J. Pidd, chemist and druggist, became managing director. The present directors are Mr. L. S. Pidd (chairman), Mr. E. Berry, M.Sc., A.I.C., Ph.C. (technical chemist), and Mr. J. J. Horridge. The firm specialises in the manufacture of all kinds of surgical, dermatological and pharmaceutical plaisters in india-rubber combination, lead base and isinglass. Their machinery is of the most up-to-date kind, and expert supervision is maintained at every stage of the various processes. With regard to rubber plaisters these are all calender spread, modern heavy calender plants being in operation, using only the finest Para rubber and purest ingredients in the process. The use of heat and pressure only, and the complete elimination of solvents, gives an adhesive of improved keeping qualities free from unpleasant odour. On visiting the premises of the firm recently a representative of *THE CHEMIST AND DRUGGIST* noticed, hanging in the outer office, a curious testimonial in the shape of a case containing many thousands of dead flies sent in by a grateful customer to prove the efficacy of Mather's fly papers. Other interesting features of the works include large stocks of pure Para rubber in cases, roller mixing machines, delicate apparatus for spreading court plaster and machinery for making and printing boxes. The firm's Balsamic Plaisters have been supplied to the public for many years, and were used by the army and navy during the Crimean war. The London wholesale and export agents, Mace & Haldane, Ltd., late of Mitchell Street, London, E.C.1, are now incorporated, the registered offices having been transferred to Dyer Street, Hulme, Manchester.

Oldfield, Pattinson & Co.,

New Bridge Street, came into existence in 1878 on the death of William Mather, for whom Mr. Ashley Cooper Oldfield had acted as manager and buyer for several years. The drug department of Mr. Mather's business, together with the stock, fixtures and laboratory appliances, was taken over by Mr. A. C. Oldfield, in partnership with Mr. Thomas Ross Pattinson, and the newly-formed company carried on operations in a recently-built warehouse in Long Millgate. Later a move was made to a larger building in Todd Street, the Millgate premises having proved too small for the firm's requirements. A further extension was made by renting a building in Bent Street, Cheetham, where manufacturing operations were carried on. On the expiry of the Todd Street lease the opportunity was taken to move into the present imposing premises in New Bridge Street. In 1908 Mr. A. C. Oldfield died, and his son, Mr. H. Keeler Oldfield was taken into partnership. Mr. T. R. Pattinson retired in June 1923 and died the following year. Two of the firm's representatives, Mr. A. Newton and Mr. Sol Taylor, are, we believe, the seniors on their respective grounds, the former having worked the same ground for twenty-seven years and the latter for thirty-one years. The premises at New Bridge Street are admirably suited for the carrying on of a large wholesale drug business. The packing or dispatch department is situated on the ground floor, next to the general offices. The rest of the space on the ground level is occupied by the dry floor, where may be seen rows of substantial bins containing drugs, such as senna, chamomiles, etc. The wet floor is conveniently arranged for the rapid execution of orders, a wide counter running the whole length of the department, giving accommodation for eight or ten assistants. The amount of galenicals stocked is large; when the representative of *THE CHEMIST AND DRUGGIST* visited the premises recently he noticed such items as follows:—140 gallons of compound infusion of gentian, 440 gallons decoction of sarsaparilla, 330 gallons tincture of opium and 330 gallons of oxymel of squills, to quote only a few examples. All galenicals are made, of course, on the premises. Metal bins holding about 3 cwt. each are

used for such items as powdered rhubarb, aloes and acacia. Essential oils are stored in a special room along with a large stock of methol usually amounting to some five or six original cases; ethers are stored under fire-proof conditions. The basement of the building contains the boiler house with a pair of large boilers; power is supplied from here to operate the drug mills, emulsifiers and other machinery. Here also are stored such goods as roots, seeds and barks in original packages, while at the other end are stored oils, honey, etc. A separate room is devoted exclusively to cod-liver oil, which, incidentally, goes through a special filtering process before being sent out. Messrs. Oldfield, Pattinson & Co. are to be congratulated on the excellence of the arrangement of their premises as well as upon their numerous customers all over the North.

B. Robinson & Co., Ltd.,

Church Street, Pendleton, was founded by the late Alderman Benjamin Robinson, who first opened a retail shop at the corner of Broad Street and Cross Lane, Pendleton, in 1855. He had some original ideas in pharmacy, and was the first maker of concentrated waters, which, when diluted 1 to 40, constitute the present British Pharmacopœia waters. These were advertised in the *C. & D.* almost from the commencement, and have become very popular with the drug trade both at home and abroad, which soon appreciated the convenience of the concentrated preparations. The next development was the manufacture of the British wines primarily with the object of producing a pure and trustworthy orange wine for quinine wine. Other wines were afterwards made, and to-day the company makes large quantities of British wines besides medicated wines of the beef and malt and other types. The retail pharmacy was sold in 1882 to the late Mr. T. R. Jeans. The premises in Church Street, Pendleton, were specially devised for the manufacture of British wines and were built in 1882. The business was converted into a limited company in 1900. Before his death in 1903 Alderman Robinson had practically withdrawn from the business, and devoted himself to public life. He was Mayor of Salford in 1889-90, and it fell to him to lay the foundation-stone of the Royal Technical Institute. His public work in Salford is commemorated by a marble bust which was erected in the Technical Institute, and also by the Robinson Scholarships which are endowed in connection with the Institute. The present chairman and managing director is Councillor A. H. Lyons, who has held that position for the past twenty-four years. He is a member of the same Council (Salford City) as the first chairman, Alderman Robinson.

Edward Taylor, Ltd.

The firm of Edward Taylor, Ltd., was founded in Salford in 1847 by the late Mr. Edward Taylor, who controlled the fortunes of the rapidly-growing business for the next thirty-seven years, and so laid the foundation for the organisation of to-day, with its world-wide business in medical and adhesive plasters. Before the late Edward Taylor founded the business which still bears his name, it was the custom of the "chymists" and apothecaries of the day to spread their own plasters by "rule-of-thumb" methods, and the superiority of the Taylor plasters quickly brought them into general demand. Mr. Edward Taylor died in 1884, but the management of the firm has remained in the hands of his family ever since. In 1910 the business was converted into a private limited company, and the present directors are the relatives of the founder. Although Mr. Taylor was a pioneer in the making of plasters under scientific conditions, it must be confessed that the machinery and methods of those days were crude and elementary compared with the complicated plant and the rigorous analytical control of to-day—a control which begins with the raw materials and is not relaxed until the finished product is packed for dispatch. In the early years of

the firm's business the chief call was for plasters manufactured from lead base, but the demand has now completely changed and is almost entirely for rubber-base self-adhesive plasters. To-day the firm's products include belladonna and other porous plasters, zinc oxide and other surgical plasters, while an interesting recent production is "Emergoplast," the emergency plaster dressing for domestic first-aid. Another recent production is "Flexoplast," a self-adhesive elastic bandage for varicose veins, ulcers, etc. Under present conditions effective salesmanship is as necessary as faultless quality, and special care has been devoted to the packing of Taylor's plasters, with the result that the present-day display outdoors are an ornament to even the most exclusive pharmacy. From the early days of the firm the overseas markets were not neglected, and this business has grown to such an extent that some years ago a separate factory was established in Manchester and specially equipped to meet the varying demands of different climates, and this factory now handles the whole of the firm's export business, in conjunction with a chain of depôts in Canada, Denmark, Cape Colony, Rhodesia, Australia, New Zealand, Egypt and the Argentine. In addition to its business with private traders the firm is a contractor to the Admiralty, War Office, Crown Agents for the Colonies, the India Office, the Government of South Africa and many foreign Governments. During recent years branch depôts have been established at 21 Ely Place, Holborn, London, E.C.1, and 26A Robertson Street, Glasgow, C.2.

Veno Drug Co. (1925), Ltd.

The premises of the Veno Drug Co. (1925), Ltd., afford an interesting example of change in architectural style. The newer portion—added about ten years ago—conforms to modern ideas and gives an impression of greater height caused, no doubt, by the sloping roof of the older building. Provision has been made, it is interesting to note, for the upward extension of the newer structure. The manufacture of the Veno products is practically a self-contained industry, and every process, from the buying of the raw materials to the dispatch of the finished products, is under strict scientific control. A representative of THE CHEMIST AND DRUGGIST, who visited the premises recently, was cordially received by the managing director (Mr. H. Gregory) and conducted on a tour of the works by a member of the staff. Commencing on the top floor he was shown some of the excellent canteen facilities provided. Light meals may be taken in these rooms (there is a kitchen), and ample opportunities are afforded for table games, etc. Descending to the first floor the operations of packing many of the firm's well-known products were watched with interest. It was noticed, in passing, that the departments in the Veno buildings are well-ventilated and kept spotlessly clean. One of the most interesting machines on this floor is used for labelling the glass tubes to be filled with Cassell's tablets. Some little difficulty, it was explained, had been experienced in preventing breakage of the fragile containers during the process of mechanical labelling. The machine now in use, however, was specially adapted so that very little pressure is applied to the glass and a breakage is indeed rare. The bottles are fed to the machine by an operator, when they are immediately caught up by claws and passed along to a mechanism which, by means of a cam arrangement, causes the already gummed label to fall on the glass. Gentle pressure is then applied to the label, and the completed tubes are ejected and collected into trays. The next process is filling; the tablets are counted by electrically-operated counters which can be regulated to any number. After filling, the tubes are packed with cotton wool and corked by hand. Other operations carried out on this floor include the cartoning of Germolene, the filling of Veno's Lightning Cough Cure and other products. Labels are affixed by hand with a speed only acquired by long practice. The ground floor is devoted to such departments

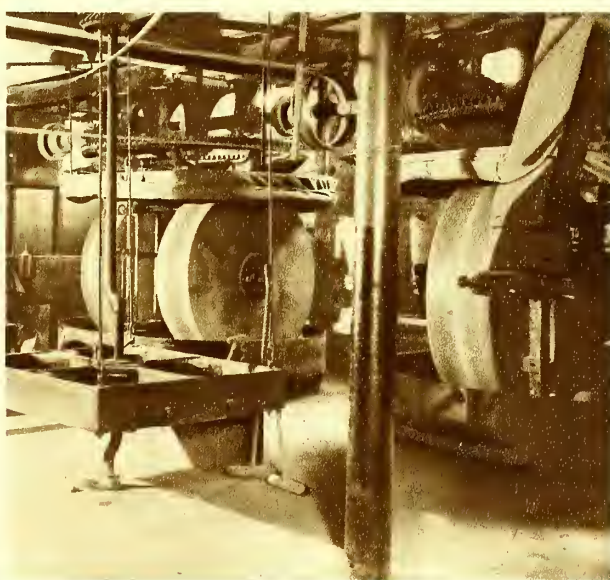
as dispatch, box-making, loading and printing. In the box-making department a special demonstration was staged for the benefit of THE CHEMIST AND DRUGGIST representative; in a few minutes boxes were being turned out ready to be packed and dispatched. Messrs. Veno not only print their pamphlets, labels, and so forth, but manufacture the cartons for their proprietaries. The printing department is usually running at high speed, and at the time of our representative's visit the machines were working "all out." Our representative was then taken to the laboratories of the firm, situated a little way from the Chester Road buildings; here he was received by Mr. W. H. Cockton, Ph.C., the chief chemist. In these premises are assembled, under one roof, a research laboratory, an experimental laboratory, the various manufacturing departments, and a well-equipped engineers' workshop. The application of machinery to special purposes is one of the features of the building, and nothing is done by hand for which a mechanical substitute can be found. The tablet-making department is one of the most up-to-date of its kind, turning out its products on a large scale. The ointment making department is equipped without regard to cost, the milling, mixing and mechanical sifting apparatus being all specially chosen. The filling of Germolene is an interesting operation; the product is poured into a filler suspended on a movable rail over tables on which trays of tins are placed. The tins are filled and covered in a few seconds. Our representative was impressed by the amount of care taken to avoid possibility of dust entering during the filling process.

James Woolley, Sons & Co., Ltd.

The House of James Woolley, Sons & Co., Ltd., of Victoria Bridge, is so well known, *ubi et orbi*, as "Woolleys, of Manchester," that we can imagine some of our readers contenting themselves with glancing at the illustrations that belong to this paragraph, and taking the text as read. Like a few others among our leading manufacturing houses, Messrs. Woolley can trace their pedigree back to the eighteenth century, since Mr. James Woolley, who commenced business in King Street in 1833, acquired in 1844 a wholesale and retail concern founded by a Mr. R. H. Hargreaves in 1796. Hargreaves had premises in Market Street, and Mr. Woolley, on completing the purchase, made this address his headquarters. At the time of the last Manchester meeting of the Conference (1907) this retail shop was still being carried on by Messrs. Woolley. Mr. Woolley died in 1858, and was succeeded by his eldest son, the late Mr. George Stephen Woolley, who served on the Council of the Pharmaceutical Society, and was president of the Manchester Pharmaceutical Association for a long period. Mr. G. S. Woolley took his brother, the late Mr. Hermann Woolley, into partnership in 1868, and four years later the style of firm was changed to James Woolley, Sons & Co., Mr. Harold Woolley and Mr. C. A. Johnstone (both of whom have passed away) being also made partners. The removal of the manufacturing departments to Knowsley Street, Cheetham, in 1872, was an important development, leading to the erection of additional premises on the site seven years later. The present palatial headquarters at Victoria Bridge, one of the landmarks of Manchester, were opened in 1892. Meanwhile, the late Mr. E. J. Woolley, son of Mr. G. S. Woolley, had joined the firm; and in 1895 the partners converted the business into a limited liability company. The directorate was increased in 1907 by the addition of Mr. J. H. Franklin, Mr. E. S. Johnstone, Mr. W. Lane and Mr. A. C. Vallance, of whom Mr. Franklin alone now remains associated with the company. On the death of Mr. E. J. Woolley in 1927 he was succeeded as chairman by Mrs. E. J. Woolley; the other directors are now Mr. J. H. Franklin, Lieutenant-Colonel Stanley Watson (joint managing directors), Mr. T. C. Twining, and Mr. G. S. Woolley (son of the late chairman). As a matter of recent history we may recall the opening of the Woolley Laboratories at Manchester University last year (*C. & D.*, 1930, II, 542).



Section of coating and polishing pans



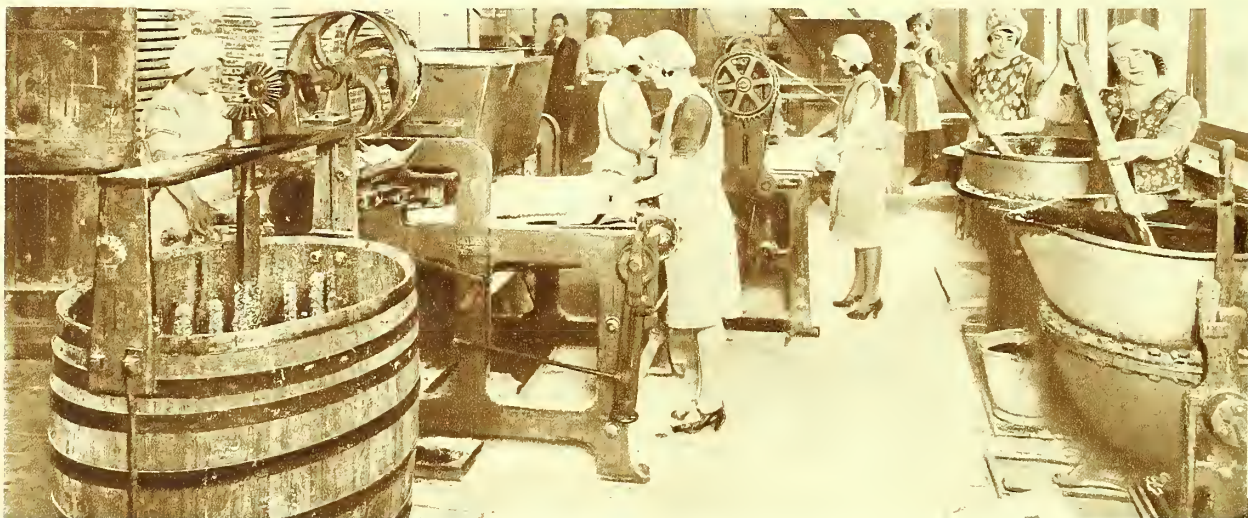
Top, part of the general storage basement
Above, the grinding mills.
Below, preparation of extract of cascara
Another view appears on the next page



VIEWS IN THE FACTORY OF JAMES WOOLLEY, SONS & CO., LTD.



Filling phenate of soda at James Woolley, Sons & Co., Ltd.



Part of the pastille-making department, Thos. Guest & Co., Ltd.



Stamping lozenges. Thos. Guest & Co., Ltd.

JAMES WOOLLEY, SONS & CO., LTD., and THOS. GUEST & CO., LTD.

*The Chemist & Druggist
Special Issue,
June 27, 1931*

It will be remembered that these splendidly equipped laboratories were provided by members of the family and the company in memory of the late George Stephen Woolley, Hermann Woolley and Edward James Woolley, and that they comprise two large rooms for classes in pharmaceutical chemistry, a smaller one for research and a laboratory for galenical pharmacy, thus adding to a series of munificent gifts which the city in general, and pharmacy in particular, is not likely to forget.

So far we have briefly summarised the growth and changes in proprietorship of this historic house: it remains to indicate in outline some of the modern developments that are keeping the company in the front rank of progressive business. On returning a few weeks ago after a tour of the headquarters under the guidance of Mr. Arthur Maude, the company's general manager, we turned to the description we gave of the building on its opening in 1892. How well the general layout was planned then is evident by comparison with our recent impressions; the changes that have been introduced of late years have, so far as we can judge, been relatively few, though none the less important. To visit the offices, for instance, is to be impressed by the very modern systems adopted for dealing with orders, invoices, statements, and other forms of book-keeping. Each written order is typed with as many duplicates as there are departments, so that each may handle its own share without loss of time; and this principle applies to every phase of the office organisation. Passing through the wet and dry departments, the packing-room and so forth, we noticed various changes in details, some obvious, some more subtle, but all making for "speeding up" and higher efficiency; thus, the labelling of the stock containers has been made more distinctive, and the size of each container has been adjusted to modern needs. A special feature of Victoria Bridge is the analytical department under the control of Mr. G. J. W. Ferrey, B.Sc., A.I.C., where all incoming chemicals, oils, etc., are tested and passed before being put into stock. Clinical investigations are also conducted.

About nine years ago expansion of the business necessitated the opening of an establishment at 76 Deansgate, a branch dealing with surgical and scientific instruments, hospital furniture, chemical apparatus, first aid, etc. A visit through the department discloses commodious fitting rooms for dealing with deformity cases, artificial limbs, trusses, and so forth. At the rear of the premises is a workshop and smithy fitted with muffle furnaces and presses for the manufacture of trusses, and other workshops with lathes for polishing, grinding and sharpening surgical instruments. This department, which is under the managership of Mr. T. C. Twining, was described in *THE CHEMIST AND DRUGGIST*, 1922, 1, 863.

The works at Cheetham supply the stocks from which the requirements of customers are met at Victoria Bridge; here the whole of the manufacturing side of the business is carried out and a large proportion of the packing also. We were fortunate, on a recent visit, in being piloted round by Mr. L. H. Boardman, Ph.C., a Pereira medallist, a winner of the Fairchild and the Leverhulme scholarships, and a first prizeman in the C. & D. analytical tournament of 1926. In the basement are the large drug-grinding mills, together with various other types (mortar mills, pot mills, etc.), in which drugs such as gamboge and cantharides can be safely ground. On this floor is situated the boiler house, supplying steam and power to the whole works. The remainder of the basement is occupied by stillages for storing tinctures, etc., where they are allowed to mature and settle. Recently the storing of several of the preparations in pure nickel drums has been adopted, ensuring freedom from any possibility of contamination or loss of spirit. A separate laboratory in the basement, but apart from the main building, is used entirely for the manufacture of methylated preparations. The next floor comprises four departments, drug grinding, tablet-making, pill-making and the dispatch depart-

ment. In the drug grinding departments are two large disintegrators capable of smashing the hardest of drugs, fluted rolls for breaking hard seeds, kibbling machines for acacia and myrrh, and many other types of machinery. Here, too, is an efficient drying room, where raw drugs, solid extracts and so forth are treated before grinding. The tablet-making department is up to date in every way, containing all the latest types of rotary and single punch machines. The pill department, with its masses of pulleys and belts, impresses by its efficiency, and all the processes of pill-making may be easily followed. All kinds of coating are done, on quantities varying from orders of three dozen up to hundredweights, special apparatus being employed for gelatin coating. Here also tablet-coating on a large scale is carried out. The floor above comprises one of the main manufacturing laboratories and a drug store room. In this department liquorice extract, cascara extract and syrups of all kinds are turned out by the ton, for which purpose a battery of pans and stills holding up to 2,000 lb. each is employed. Here we saw percolators arranged in series for the process of repercolation, a process the manufacturing experts would be loth to give up. Tinctures of all kinds are prepared, using the latest style of aluminium percolators or earthenware as the case may be. The manufacture of concentrated infusions is a speciality which many years of experience have brought to perfection. Alcohol-recovery stills and a turpentine still complete the equipment of the laboratory. The top floor is the main laboratory of the works, and also includes the works manager's office, general office and costing department—the buying office and sampling room being situated on the first floor. In this laboratory all special orders are attended to, together with the manufacture of smaller quantities of a great variety of galenicals, sterile preparations, speciality preparations and emulsions. Particular attention has been paid to the emulsion plant. The remainder of the laboratory is taken up with ointment-making in any quantity, from a few ounces to batches of 800 lb. Another feature of this department is a colloid mill, electrically driven, which can be set to a few thousandths of an inch. This apparatus will deal with a hundredweight of ointment in a very short time, and revolving at a speed of several thousand revolutions a minute ensures that there can be no gritty particles in the finished preparation. Folded powders, hypodermic tablets, suppositories, bougies, etc., are other sections. The packed goods department occupies the larger portion of the new wing, and here we noticed large quantities of Woolley's Phenate of Soda being bottled off and labelled with the latest mechanical devices. Bottling by vacuum fillers is a method largely adopted nowadays, and Messrs. Woolley have not been slow to take advantage of such improvements. Capsule-making occupies a separate floor. Every capsule is made separately by hand, and the workers are so efficient that to prepare 1,500 to 2,000 in a day is not uncommon. By this method absolute accuracy of dosage is obtained, and the appearance of the finished product is definitely superior to that of the machine-made capsule. Lastly, we came to the analytical department, where we found Mr. J. R. Walmsley, F.I.C., Ph.C., in charge of numerous investigations. Here many hundreds of analyses are carried out in connection with all the preparations manufactured at Knowsley Street, everything being under strict analytical control. During the last fifty years, as members of the Conference are aware, a considerable amount of pharmaceutical research has emanated from the Knowsley Street Laboratories under the guidance of Mr. J. H. Franklin, which has been of immense value to the practising pharmacist and also to the manufacturer. Probably a unique distinction in the annals of pharmaceutical business houses is that during 1930 one of the managing directors occupied the chair of the Wholesale Druggist section of the W.D.T.A. and was president-elect of the British Pharmaceutical Conference, while the other was president of the P.A.T.A.

TABLET MEDICATION

By HERBERT SKINNER, Ph.C.

President of the Pharmaceutical Society of Great Britain, 1927-29

THE revision of pharmacopœias and of the British Pharmaceutical Codex raises the question of tablet medication, and of whether it is possible to set standards both as regards amount of medicament present in each and disintegration. Tentatively it may be conceded that to standardise the rate of disintegration is doomed to failure; but there is no reason why it might not be stated as a standard that all tablets should split up on contact with water within specified time limits. The abstracts on the U.S.P. tenth revision dealing with percentage limits of medicaments advance tolerances for certain substances in compressed tablets:

Caffeine citrate.—Anhydrous caffeine, 43 to 53 per cent. of the labelled amount caff. cit.
Bismuth subcarbonate.—83 to 97 per cent.
Bismuth subnitrate.—73 to 85 per cent.
Bismuth subgallate.—48 to 61 per cent.

"The major objection against tablets is that of excessive hardness and insolubility. It becomes a real problem in view of the fact that there are no well-defined standards for tablets in the U.S.P. or National Formulary. It is suggested that the disintegrating test for tablets be made in a 0.3 per cent. HCl solution at body temperature."

It goes on to state there is a material objection to a carbonate or bicarbonate as a disintegrator, depending on effervescence with the gastric juice. Addition of starch (10-20 per cent.) meets with objection owing to a tendency to absorb moisture unless the tablets are kept in an airtight container. Paraffins and impervious substances are unsuitable; cocoa, on the other hand, being a soft substance, absorbs water easily and splits accordingly. Calcium citrate is recommended as a diluent for suitable substances, as it remains dry, and disintegrates instantly in acid solutions at body temperature. It is certainly very efficient, but whether it is generally acceptable needs further investigation and consideration.

The literature on tablets and tablet-making is mostly scattered through contributed papers, and needs sorting out to find whether various points had been dealt with previously. The standard book in English is by J. R. Wood, an American volume dating back to 1906. There is also a booklet in German by Georg Arends; this is the most up-to-date manual, the third edition being published in 1926. In small laboratories knotty problems arise, and there appears very little to help further than to stimulate actual experiments. General instructions in "Pharmaceutical Formulas," or the B.P.C. serve as a guide.

Manufacturers on the large scale, with their batteries of efficient machines, having greater latitude in forms of compressing medicaments, can adapt various styles to different forms of compression: two certainly stand out, the punching style and the rotary. From long experience it seems clear that the best methods of dealing with substances for compression are usually secrets of the manufacturing laboratory; yet even these experts fail at times, judging by a considerable number of applied tests. For instance, two tablets of the compound aloin variety were tried; one had been bought and the other was home-made with pulv. glycyrrhizæ as the diluent. The bought one after forty-eight hours had not completed dissolution; the home one split up entirely within thirty minutes. Vegetable substances having cellular structure play a part in disintegration as important as in pills.

There are few tablets which can be made satisfactorily without some form of preliminary preparation

if an easily disintegrating tablet is desired. Granulations of various medicaments are easily obtainable; typical cases are aspirin and dried extracts. Evaporation of extracts under reduced pressure makes granulation easy. The main objection to bought granulated medicaments is that something must be added to ensure disintegration, and that something is usually of a powder variety, making it necessary to provide a wide margin in estimation of the medicament. Soluble salts are granulated with some object in view on similar lines to insoluble salts. We are then sure that no matter how they are taken, possible irritation of the mucous membrane is reduced to a minimum.

The solution in which the tablets are tested was that used in America for testing—0.3 per cent. hydrochloric acid and temperature 80° F. Several tablets containing gum resins lost their external coating quite easily, but the inner substance remained hard and undissolved for twenty-four hours. Muscular contractions *in vivo* would favour dissolution, but as this could not be applied the suspension test had to stand. Cascara extract in simple tablet form or in a compound proved very disappointing. Twelve varieties were tried, and only three disintegrated within the hour; one, however, split up into solution in twenty minutes. Cascara is expected to be efficient in purgation in from six to eight hours, but cases are known in which from 5 gr. to 10 gr. must be given to be effective. An extract tablet appears to go into solution by interchange of the surfaces with the surrounding fluid; and only one had actually been prepared with vegetable material to cause it to swell up and multiply the surface contact helping it to go easily into solution. The Pharmacopœia pills made into tablet form easily split up within half an hour; the cause appeared to be the presence of some vegetable material like pulv. glycyrrhizæ, which proved very effective with compound aloin tablets, as previously mentioned. The chocolate coating of the tab. aloin. co. easily dissolved, but the tablets remained intact. The addition of pulv. glycyrrhizæ made all the difference. Doses of tablets for laxative purposes are frequently increased, the physician usually ascribing the cause to habituation; but the variation in passing into solution on suspension raises some doubt whether this is always the true explanation. Arends in "Die Tablettenfabrikation," gives a formula for cascara tablets after Dieterich:—

Ext. cascar. sag. sicc.	...	...	100.0
Magnesia ust.	...	...	20.0
Amyli oryzæ	...	...	30.0

The magnesia is obviously for an additional purpose, but the use of starch produces a tablet amenable to easy solution.

A blending of arrowroot powder can be made with granular cascara extract, which will split up the tablet in anything from five minutes to half an hour, varying according to the amount present; but the tablet has a speckled appearance. The pulv. marantæ co. is made as follows:—

Marantæ pulv. sicc.	...	...	90.0
Talc.	...	...	10.0

It may be used to the extent of from 10 to 20 per cent. with the granular extract. This powder is similar to one mentioned by Arends. A hospital formula for cascara tablets is as follows:—

Ext. casc. sag. sicc. pulv.	...	...	100.0
Marantæ pulv.	...	...	50.0
Agar-agar pulv.	...	...	50.0

This is granulated with alcohol. Wood, in his book, follows the line of Dieterich for cascara, but gives less magnesia and starch. Any substance greedy of moisture presents other difficulties in coating; but these are easily overcome by manufacturing ingenuity.

Phenolphthalein is given in varying doses and with equally varying results. Chocolate and fruit bases are simple enough, and their popularity is probably due to effectiveness through easy dissolution. In tablet form the idea of disintegration is not considered, judging by suspension tests. The diluent used is frequently sugar of milk, but experience shows in hospital work that the most effective is powdered agar:—

Phenolphthalein.
Agar-agar pulv. ... aa. p. æq.

Granulate with pasta amyli. The paste is made firmer than that given in "P. F.," Vol. 1—one part of starch and four of hot water; *fiat secundam artem*. In dealing with agar unnecessary moisture must be carefully avoided.

Another favourite tablet is:—

Aspirin. ... gr. 2
Phenacetin. ... gr. 2
Codein. phos. ... gr. $\frac{1}{8}$

Granulate with pasta amyli and use pulv. marantæ co. gr. $\frac{1}{2}$ to each tablet.

"The Art of Dispensing," in referring to tablets of potassium bromide, says: "As such tablets are less soluble than the uncompressed chemical, they should be dissolved in water before taking." It is a counsel of perfection with tablets of soluble salts. Undoubtedly they should be crushed and dissolved in water. Another way found very useful is to dry carefully, powder and granulate with pasta amyli. Arends gives the formula for antipyrin as follows:—

Antipyrin, cryst. ... 100.0
Sacchar. lactis ... 40.0
Amyli marantæ ... 7.5

It makes an excellent tablet, and the sugar of milk obviates self-disintegration. Crystalline chemicals are frequently too hard for easy compression, and it means the application of greater power in producing a fine tablet; but in doing so the tablet becomes refractory, dissolves slowly, and the only salvation is to crush it.

Endocrine products are frequently unsatisfactory. They absorb moisture easily, and if dispensed in anything save a closed container become damp and deteriorate. To obviate this tendency use calcium phosphate as a diluent and granulate as usual with starch paste. A typical formula is:—

Thyroid, sicc. ... gr. 1
Sodii chloridi ... gr. 1/10
Calcii phosph. præcip. ... ad gr. 2

Recently the calcium phosphate has been replaced by calcium citrate, which so far has been very satisfactory, and is superior to the phosphate in disintegration; moreover, alcohol can be the granulating fluid.

Pills in tablet form are now quite common, as they prove a convenience in dispensing large quantities for out-patients. Vegetable substances, such as pulv. glycyrrhizæ have now given place to agar-agar, the advantage being a vegetable substance like liquorice is harsh in comparison with agar, and friction has little deleterious action. The following is a formula from the B.P.C.:—

Aloes pulv. ... gr. 200
Ext. nucis vom. sicc. ... gr. 25
Ext. bellad. sicc. ... gr. 16 $\frac{1}{2}$
Sacch. alb. pulv. ... gr. 100
Sol. theobrom. æth. ... m 45
Alcohol ... m 15

This can be reconstructed as follows:—

Aloes pulv. ... gr. 2
Ext. nucis vom. sicc. ... gr. $\frac{1}{4}$
Ext. bellad. sicc. ... gr. $\frac{1}{8}$
Agar-agar pulv. ... ad gr. 4
Granulate with alcohol.

In all pilular masses containing dried extracts powdered agar has become the standard disintegrator; the only cautionary word is to be exceedingly careful about the use of water in granulating. An even more efficiently disintegrating tablet is made as follows:—

Ext. aloes pulv. ... gr. 3
Ext. nucis vom. sicc. ... gr. $\frac{1}{4}$
Agar-agar pulv. ... gr. $\frac{1}{2}$
Marantæ pulv. ... gr. $\frac{1}{2}$

Granulate with alcohol.

The following compound cascara tablet is in great demand and undoubtedly very efficient in this form:—

Ext. hyoscy. sicc. ... gr. $\frac{1}{12}$
Ext. nucis vom. sicc. ... gr. $\frac{1}{8}$
Aloini ... gr. $\frac{1}{2}$
Ext. cascara sicc. ... gr. $\frac{1}{2}$
Agar-agar pulv. ... ad gr. 2

Granulate with alcohol.

Digitalis leaf tablets need little comment, as by their nature they disintegrate quite easily. Saccharum lactis can often be replaced by dextrose, as the latter is softer and goes into solution more readily. The Stewart Hardwick diluent is:—

Cocoa powder ... gr. $\frac{1}{2}$
Sugar of milk ... to gr. 2

In general terms this is quite satisfactory, as the softness of cocoa powder is easily penetrated by an acid solution. In the C. & D. of March 28, 1931, a Danish formula for oxyquinoline tablets (effervescent) comprised many of the points previously discussed:—

1
Oxyquinoline sulphate ... 30.0
Benzoic acid ... 250.0
Alcohol ... 125.0

2
Powdered agar-agar ... 50.0
Sodium bicarbonate ... 170.0
Boric acid ... 200.0
Arrowroot ... 300.0

Add 1 to 2 and granulate by passing through a suitable sieve; each tablet weighs 1 gm. It makes a very nice antiseptic tablet, and fulfils the conditions laid down.

Tablets intended to dissolve slowly in the mouth are made from harsher granulations, while compression is applied with greater power. Potassium chlorate is frequently turned out in tablet form too soft in character. Solution in the saliva is easy, and effective medication correspondingly reduced. Usually in chemicals of this nature it is the absence of suitable power in driving the machine which is at fault. Paraform tablets have proved frequently to be unsatisfactory. The vehicle is usually saccharum lactis, sugar or dextrose. Sugar of milk is granulated with syrupus simplex. The fault mostly lies in the easy solution of the basis in the saliva, and the action of the paraform is too short. Arends suggests the following:—

Paraform. ... 1.0
Menthol ... 0.25
Ac. tartaric. ... 1.0
Sacchari ... 94.0

For 100 tablets.

If sacch. alb. pulv. is used, mixed with the acid and granulated with alcohol, finally incorporating the paraform and menthol, a very good tablet is obtained.

To summarise: It would appear that no satisfactory standardisation of tablets is at present accepted in two respects, first in limitation percentage of medicament, and second in disintegration. The latter point may raise a doubt, but tablets are in a different category from compounded drugs on prescriptions. The medicaments may be simple or compound, but they are in single doses; and physicians depend upon them being accurate within reasonable limits and easily disintegrated without insistently affirming the necessity of crushing or dissolving. There is no reason why any tablet should not, when added to water, readily disintegrate or dissolve and provide a suitable means for administration.

Modernist Design on the Continent

Examples of the Unusual in Pharmaceutical Architecture from Paris, Berlin and Other Centres

THE art of shopfitting, and especially that branch devoted to pharmacy, has attained a high standard of excellence on the Continent. On pp. 765-768 appear illustrations of a number of outstanding examples of modernist design from France and Germany. The primary consideration of the designers of these pharmacies is to attract maximum attention without sacrifice of pharmaceutical atmosphere and dignity. This object is achieved in various ways, by judicious lighting, artistic façades and attractively-fitted interiors. The importance of efficient lighting, both externally and internally, is fully realised by continental chemists, and our illustrations show some of the methods employed. Window displays are mostly of simple character, confined, in the main, to pharmaceutical products. Prescriptions are usually dealt with at separate counters as distinct from ordinary retail sales, while advertisements of the obtrusive kind are conspicuous by their absence. The following notes give brief descriptions of the pharmacies illustrated.

Pharmacie Anglaise

The window of the Pharmacie Anglaise, although only about eight feet wide, is a striking example of what can be accomplished in so small a space. Narrow frontages and far-reaching back premises are the characteristics of the Rue Saint Honoré, Paris, and the older part of the Faubourg and the Pharmacie Anglaise (No. 20 of the Faubourg) is no exception. A glance at our illustration of the exterior (p. 765) will disclose a neat and attractive front, simple in design yet efficient for its purpose. The small side-windows are usually devoted to displays of English toilet goods. The interior calls for little notice, the tall carved oak-glazed showcases not being distinctly modern; the remainder of the narrow space is occupied by a long, high counter well provided with showcases.

Pharmacie de l'Avenue

This pharmacy is situated in the Avenue d'Orléans, Paris, a busy shopping thoroughfare running between a point near the Faculty of Pharmacy and the gates of Paris. In the circumstances—the pharmacy occupies the ground floor of a commonplace and unobtrusive house—a striking front is not so much a luxury as a necessity. The greatest possible use has been made of the fascia (see p. 765), while window displays are arranged in a distinctly modern manner; the interior is fitted in oak.

Pharmacie de Rome

Though not of such recent construction, the Pharmacie de Rome, at the Gare St. Lazare, Paris, is remarkable in two ways; first, as the largest pharmacy in Paris, and, secondly, by its unique feature of a series of gilded medallion portraits of scientific celebrities figuring above the shop front, which (thanks to recent extensions) now shows eighteen of these busts in relief as follows:—Galen, Hippocrates, Baumé, Claude Bernard, Berthelot, Caventou, Pierre Curie, J. B. Dumas, Gay-Lussac, Guignard, Lavoisier, Milne-Edwards, Ch. Moureu, Moissan, Parmentier, Pasteur, Pelletier and Vauquelin. Window dressing in this establishment is as carefully studied as in the "grands magasins" themselves. Displays are changed periodically, and each bay is devoted to some special class of goods. Recently the features were infant foods, pocket pharmacies, optical goods, surgical appliances, special soaps,

an antidote for nicotine, barometers and thermometers, toilet necessities, and proprietary articles. The business occupies the whole building. Above the general shop is the prescription department; on the second floor optical and surgical goods, and on the third the dispensing section. The top floors are devoted to laboratories and offices.

Pharmacie Gambetta

The Pharmacie Gambetta was founded some thirty years ago, but was thoroughly modernised recently. It is situated to the east of Paris in the centre of an important industrial quarter. Our illustration of the front (see p. 765) shows a somewhat unusual design. The Geneva cross, placed over the entrance, and the huge title are in vermilion on a grey background; ample space is provided for window display. The interior presents some novel features. The visitor passes through a wide passage, paved with mosaic, and with the walls lined with oak shelves, arriving at a prescription desk and office; no counters are fitted. Prescriptions are dispensed on an upper floor. It is interesting to note that in all departments only female assistants are employed.

Pharmacie St. Germain des Prés

This pharmacy occupies an important corner site in the Rue Bonaparte, Paris, and has been fitted recently with an entirely new front of simple, yet striking design. Window displays are neat, attractive and confined to pharmaceutical and allied products. It will be noticed from our illustration (see p. 765), that full use is made of every inch of external space. The inside fittings, designed by the proprietor, comprise oak shelves and a high counter in the same wood, dividing the "public" portion of the pharmacy from the dispensary. The front of the counter is fitted with a large glass showcase.

Aeskulap-Apotheke

The Aeskulap-Apotheke is one of the five oldest pharmacies in Breslau and was reconstructed during 1927. A feature of the buildings in the centre of this ancient city is their narrowness; the Aeskulap-Apotheke is no exception. The interior is arranged in a practical and artistic manner, with a long counter, nests of drawers and shelves. Adequate seating accommodation is available for customers, and a drinking fountain, dispensing fresh water, is built into the wall opposite the counter. The patron saint of the pharmacy, the god Æsculapius, is represented by an image standing in a niche over the fascia and in the interior by a large painting. The window is small (see p. 766), measuring about 7 feet wide, 5 feet high, and 32 inches deep. Laboratories and manufacturing rooms are equipped with modern electrically-driven machinery; all galenicals used in the pharmacy are made on the premises.

Apotheke Am Zoo

A new note in design has been struck by the architect of the Apotheke am Zoo, a recently opened pharmacy in Berlin. The designer was faced with a number of difficulties, including a narrow frontage and an interior measuring only about 11½ feet wide by 49 feet deep. That these problems have been overcome is evident from a glance at our illustration (see p. 766), which shows a neat, clean design giving, in fact, an impression of spaciousness. With a view to attracting



Left, above, Pharmacie St. Germain des Prés
Left, centre, Pharmacie de l'Avenue Above,
Pharmacie Anglaise



Pharmacie Gambetta



Pharmacie de Rome

MODERN PHARMACY DESIGN IN PARIS

St. Germain, Anglaise and Gambetta pharmacies, façades designed and executed by Siegel, Paris, de l'Avenue façade designed by M. Goldberg, architect, executed by Siegel

MODERNIST PHARMACIES OF GERMANY



Apotheke am Zoo by night Architect: Regierungsbaumeister S. Lütté, Berlin W.15

Bismarck-Apotheke, Rostock Photo: E. Kellm



Bellevue-Apotheke, Berlin W



Bismarck-Apotheke, Rostock, side view Photo: W



Window display of Aesculap-Apotheke, Breslau



Exterior view of Aeskulap-Apotheke, Breslau
Photo: W. Silber



Interior and Counter of Apotheke am Zoo, Berlin
Architect: Regierungsbaumeister S. Lütté, Berlin W.15



Day and night views of the Nord-Ost Apotheke. Landsberger Allee 126, Berlin N.18

Top, left, Marien-Apotheke, Sonntag and Oelsner, Berlin
Wilmerdorf, Centre, Mohren-Apotheke, Breslau, interior



Bottom, left, Rheinland-Apotheke, Berlin
Centre, Bismarck-Apotheke, Berlin
Right, Mohren-Apotheke, exterior

FURTHER EXAMPLES OF TWENTIETH CENTURY ARCHITECTURE IN GERMAN PHARMACIES

maximum attention the facia (illuminated at night) is as large as possible and extends, not only over the pharmacy, but also over adjoining premises; the word "Apotheke" occupies the full length. The greatest advantage is taken of external display space, hence the open front with side showcases. The entrance is free and accommodating, with no island displays. The "public" portion of the interior provides ample space, and facing the door is the reception counter. The latter is somewhat unusual in design, being semi-circular and fitted with a glass top. To the extreme left of our illustration (see p. 767) may be seen a drinking fountain for the use of customers.

Bellevue-Apotheke

The Bellevue-Apotheke, Potsdamer Platz, Berlin, is a good example of efficient pharmacy lighting. The word "Apotheke" on the facia is formed by red neon lights (see p. 766). The windows are well lighted, and surrounding the front is a frame of opal glass, also illuminated. Internally the pharmacy is fitted in excellent taste with a long glass-topped counter, seating accommodation and showcases.

Bismarck-Apotheke

The Bismarck-Apotheke is a new pharmacy situated in the Bismarckstrasse, Berlin-Charlottenburg. The façade is characterised by a simple and harmonious design undisturbed by the appearance of obtrusive advertisements (see p. 768). On the facia appears the usual descriptive sign, the letters in this case being set on a bronze base; the same material is used for the door and window frames. The remainder of the front—with the exception of the base and entrance steps, which are of polishable red granite—is faced with travertine. Modern neon signs are placed outside the third and fourth floors of the building. Inside the pharmacy a clear distinction is made between the prescription department and the retail counter. The former is designed in the shape of a semi-circular niche—not unlike a chancel on a small scale. The prescription department communicates directly with the homœopathic section—the latter has a private counter—and the stockroom. A short spiral staircase connects the dispensary to the cellar. To the rear of the prescription department is a marble-covered fitting with poison cupboards and special compartments for poisonous drugs. Fittings are of highly polished Italian walnut, with marble between the polished woodwork and the floor covering of jasper linoleum.

Bismarck-Apotheke, Rostock

The Bismarck-Apotheke, Rostock, is an interesting example of modern shopfitting applied to the transformation of an old-fashioned front into the up-to-date design shown in our illustration (p. 766). The pharmacy was formerly part of a dwelling house and was entered by ascending five steps—an obvious disadvantage. In the reconstructed front the five steps remain, but the two lowest have been extended to give access to the windows, at the same time considerably enhancing the appearance. The windows, with oak frames, are placed well forward, giving additional display space. The front is faced with special brick, and over the door and windows is placed an illuminated band to attract attention at night. At each end of the façade and between the side windows hang illuminated pilasters, while on the facia the words "Apotheke" and "Drogerie" (also illuminated at night) convey clearly to passers-by the purpose of the establishment.

Marien-Apotheke

The Marien-Apotheke is situated in the smart Western district of Berlin, and was rebuilt during 1929. Reconstruction occupied only three months and transformed an

obsolete front into a thoroughly up-to-date design (see p. 768); four steps leading up to the entrance were abolished. The front consists of a wide doorway, three large windows and five outside showcases. Perhaps the most interesting feature of this pharmacy is the novel lighting system, the first of its kind in Berlin. A new ceiling has been built to carry a series of some two hundred electric lights. The lamps are so shaded as to throw a diffused light to every part of the pharmacy. The windows are illuminated by means of reflectors.

Mohren-Apotheke

The Mohren-Apotheke, another of the five oldest pharmacies in Breslau, approaches the ideal in pharmacy construction. Externally and internally the design is striking, and doubtless inspires public confidence. During 1928 adjoining property was acquired when the whole of the buildings were reconstructed. The Mohren-Apotheke at present houses, in addition, medical consulting rooms, an x-ray department, an "inhalatorium" and a lecture room. During rebuilding the interior and exterior were altered considerably; modern lighting and tasteful wall decorations give the departments an attractive appearance. All the latest technical apparatus has been installed, and is in regular use. The outer wall of the building is faced with an opaque glass, the first occasion on which this substance has been used for the purpose in Eastern Germany; the result is an extremely durable façade. Besides extension of the building in an upward direction, the street frontage has been increased. As a means of obtaining maximum light rows of spacious windows have been installed. The outstanding feature of the design, obvious from a glance at our illustration (see p. 768) is the white bands running horizontally across the façade, giving an attractive and pleasing appearance. The outside lighting system, an important feature of German pharmacy design, is of particular interest. A perpendicular sign, comprising letters forming the name of the pharmacy, occupies practically the whole height of the façade. The letters, on red and white opalescent glass, are seen effectively day and night. In addition, narrow ribbons of white light, to the number of five, run horizontally across the façade, adding greatly to the effect.

Nord-Ost Apotheke

The front of the Nord-Ost Apotheke, in Berlin, is interesting on account of its novel lighting (see p. 767). The letters on the facia are transparent, giving a clear effect when illuminated. No lights are used in the windows, through which the interior of the pharmacy may be clearly seen.

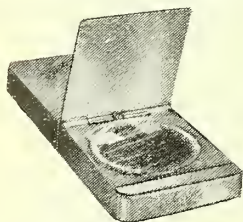
Rheinland-Apotheke

To use a minimum of space to the best advantage was the object of the architect responsible for the planning of the Rheinland-Apotheke, a modern pharmacy in the Stresemann-Strasse, Berlin. The front is neat and clean in design, and comprises a spacious window and adequate doorway (see p. 768). Brass metalwork contrasts effectively with the black marble which faces the outer wall to a height of about eighteen inches. The remaining surface is faced with bronze-bordered travertine, a pleasing and distinguished effect. Over the window and doorway is placed the word "Apotheke" in white, smooth letters, in contrast to the near-by glaring illuminated signs; the effect is restful and impressive. On each side of the pharmacy just below the facia is to be seen a red "drum," marked with a white cross; the result is decorative, and serves to indicate the functions of the establishment. Internally the pharmacy is arranged in excellent taste and consists of dispensary, drug room, prescription counter, homœopathic department, facilities for night duty and private counter.

Trade Notes and Novelties

THE WAY TO DO BUSINESS.—The advertising pages of the *C. & D.* are, without doubt, one of the best means of testing drug trade opinion regarding business prospects, and this Special Issue certainly demonstrates that our advertisers are definitely out to do more business. Instead of waiting for the promised trade revival as the result of President Hoover's effort, they determined weeks ago to make even greater use than formerly of the unique opportunity of attractive announcements in the *C. & D.* Special, with the result that colour predominates more than in previous numbers—a welcome counterblast to the dismal tales of bad business circulated by those who are frequently lacking in sufficient enterprise to go out and find where and how business is to be obtained. There are in this issue striking insets by Kirby Beard & Co., Ltd.; Piesse & Lubin, Ltd.; Potter & Clarke, Ltd.; Robinson & Sons, Ltd. In addition, there are four subsections on special papers. Among the wholesale houses concerned are:—*Purple and light blue on pink*: The Medway Corrugated Paper Co., Ltd.; Meggeson & Co., Ltd.; H. R. Napp, Ltd. *Red and black on buff*: Barrett Proprietaries, Ltd.; Beechams Pills, Ltd.; Alfred Bishop, Ltd.; Cephos, Ltd.; Cupal, Ltd.; Galen Products, Ltd.; Graesser-Monsanto Chemical Works, Ltd.; H. W. Graesser-Thomas; T. Guest & Co., Ltd.; Jeffreys, Miller & Co., Ltd.; Lax & Shaw, Ltd.; Mysore Trade Commissioner for London; Parkinsons, Ltd.; W. J. Rendell, Ltd.; Edward Taylor, Ltd.; United Glass Bottle Manufacturers, Ltd.; Veno Drug Co. (1925), Ltd.; James Woolley, Sons & Co., Ltd. *Green and black on buff*: A. de St. Dalmas & Co., Ltd.; Fredk. Hampson; Harris, Hart & Co., Ltd.; George King & Co., Ltd.; The Leyland & Birmingham Rubber Co., Ltd.; Thompson & Capper Wholesale Ltd.; White, Tomkins & Courage, Ltd. There is also a proprietary articles section (*blue on green*) wherein the following advertisers call attention to their products: Acton Pill & Tablet Co., Ltd.; Ariston Yaghourt Co., Ltd.; Ben-bows Dog Mixture Co.; A. J. Borthwick; John Hart Brittain, Ltd.; Constipon; George Eade, Ltd.; E.N.T. Manufacturing Co., Ltd.; I.D.L. Industrials, Ltd.; Ivelia Co.; S. Matthews & Co., Ltd.; The New Era Treatment Co.; The Pontampon Co.; Proprietary Articles Trade Association; A. Q. Tucker & Co., Ltd.

JUNE COMPACT.—Saville Perfumery, Ltd., Watford, in introducing the June "slide" compact (illustrated herewith), have departed from conventional methods of design. The new product possesses such novel features as slide action and a mechanically-controlled spring mirror. The case is nickel finished and packed in a neat, green suede *pochette*. The powder is available in a range of tints, and refills are supplied.



VENO PRODUCTS.—From July 1, all direct orders for the products of Veno Drug Co. (1925), Ltd., should be sent to Chester Road, Manchester.

SILF.—The wholesale and retail prices, together with terms for a window display, of Silf, are given in the advertisement of P. J. Williams, 39 Shaftesbury Avenue, London, W.1.

IVELIA preparations are obtainable from the makers, The Ivelia Co., Ivelia House, Park Crescent, Harrow Weald, or through the usual wholesale channels.

DOLS' FLANNEL.—The business in this material and garments has been reorganised and taken over by a new company—Dols' Volatalise Flannel, Ltd., Viaduct Street, Huddersfield, who will send an illustrated booklet and prices of their articles on application.

CHEMISTS' CONFECTIONERY.—A. L. Simpkin & Co., Ltd., Sedan Street, Sheffield, are offering chemists some of the most attractive confectionery we have seen for a considerable time. The varieties sent for our inspection were Glycerin Hexagon Fruits, Hexagon Mints, Brim-



stone and Treacle and Glucose Barley Sugar, the first three being shown in the accompanying photograph. Though we have not tasted each kind, those we have sampled quite confirmed the excellent impression created by their appearance. Another matter which should not be overlooked is that Messrs. Simpkin guarantee to supply these goods only to chemists.

MERRITT, LTD., advertising experts, 12 Whitehall, London, S.W.1, will send free of charge a booklet on "Resultant Advertising" to anyone interested in the subject.

CYCLONOL.—Ronsheim & Moore, 11A Wormwood Street, London, E.C.2, are the concessionaires for Great Britain and the Dominions for cyclonol, a chemical which is described as "a new medium possessing both powerful solvent and emulsifying properties for soaps and all forms of washing, cleansing and detergent products." A booklet giving details of its properties and uses will be sent to anyone interested.

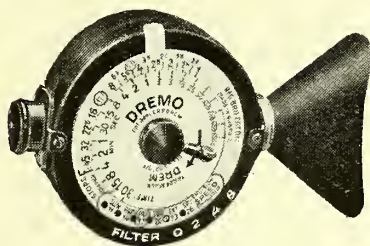
SPEAR BRAND PRODUCTS.—Hirst, Brooke & Hirst, Ltd., manufacturing chemists, Millgarth Mills, Leeds, are supplying two cut-out show-boards with their Spear and oil, syrup food, liquid paraffin. The smaller multi-coloured cards in connection brand lines—malt of figs, chemical fin and olive oil. stand is shown in



the above illustration; the larger, which is slightly more elaborate, has a striking back-ground and is designed to accommodate one of each of the preparations. As Spear brand products, which are available in several sizes, the company are offering products of the highest quality packed in a style commensurate with their pharmaceutical elegance.

DUBARRY ET CIE, Hove, inform us that their Shalimar Platinoid Powdrettes and refills are now available in green. This new shade is available in one perfume only, namely, jasmin.

A NEW EXPOSURE METER.—Drem Products, Ltd., 37 Bedford Street, London, W.C.2, have sent for our inspection a Dremo exposure meter, an apparatus of the extinction type, which is simple to operate and suitable for most outdoor subjects and well-lighted interiors. A direct view of the object at which the meter is being pointed is obtained by sliding



a lever, a device which makes for greater accuracy, and adjustments can be made for a range of plate speeds and filters. The meter measures 3 in. long by 2 in. wide, and is strongly made. It is supplied in a leather case.

LOZENGES.—Galen Products Co., Ltd., Stockport, publish elsewhere in this issue an open letter which will be read with interest by chemists. We have examined samples of the lozenges and pastilles referred to and can confirm that they are, as is stated, of high quality and well made. In addition, they are packed in attractively designed tins, and striking show material is to be supplied.

PARFUMERIES DE PARIS, LTD., Larden Road, Acton, London, W.3, have drawn out attention to the new style in which Les Fleurs de Cheramy is now being supplied. The perfumes (sweet pea, violet, chypre, lilac, lily of the valley, jasmin and fern) are packed in distinctive bottles which are enclosed in attractive golden-coloured cartons, while the retail price is very moderate for so generous a quantity of a high-class product. The stand is suit-



able for counter or window display.—We have lately received a copy of the "History of a Perfumer," a highly-artistic album originally issued by Houbigant to celebrate their 150th year as perfumers. Primarily concerned with the history of this world-renowned business, the album records in a most interesting manner the changes of fashion in the realm of cosmetics during the period 1775 to 1925. It is written in English, and a copy may be obtained free of charge from Parfumeries de Paris, Ltd.

A REDUCTION in the wholesale and retail prices of Beiersdorf's Pebecco tooth paste (Charles Zimmermann & Co. (Chemicals), Ltd., 9 St. Mary-at-Hill, London, E.C.3) comes into force on July 1.

CLOSED FOR OUTING.—C. J. Hewlett & Son, Ltd., Charlotte Street and Curtain Road, London, E.C.2, inform us that their premises will be closed on June 27, the date of the annual staff outing.

RUBBERLESS STOCKINGS for the relief of varicose veins are obtainable from Academic Depot, 158 Oxford Street, London, W.1. Showcards, trade terms and other particulars will be sent on application.

THE BRITISH EXHIBITION SHIP.—W. Thomson & Moulton, 5 Cook Street, Liverpool, are the organisers of the pioneering cruise of the T.S.S. "British Exhibitor." Details regarding the project will be found in the advertisement pages.

OWING to the necessity of going to press with this issue earlier than usual we were unable to incorporate the latest price reductions in the advertisement of the Glaxo Laboratories. Ostelin liquid should read "Per bottle of 8 c.c." and the prices of Adexolin capsules should be 3s. 9d. and 12s. 6d. respectively.

CUCUMEL BEAUTY OUTFIT.—Thomas Christy & Co., 4 Old Swan Lane, London, E.C.4, inform us that as the result of their recent advertising of Cucumel thousands of ladies have applied for a free sample and a copy of the beauty booklet. The Cucumel beauty outfit comprises a bottle of the lotion, a massage sponge, cleansing tissues and the beauty booklet packed in an attractive box. To most customers it is easier to sell a complete equipment nicely packed than the individual components separately, while the booklet (illustrated by photographs) is one of the best "sales aids" we have seen.

Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1931, p. 345.

(From "The Trade Marks Journal," June 10, 1931.)

- "PLASEITE": for veterinary surgical liquid plaster (2). By Ostrowick & Co., 1 Leaf Square, Salford. 516,731. (Associated.)
- "OOSHYA": for insecticides (2). By A. E. Norris, 41 Southville, South Lambeth, London, S.W.8. 521,583.
- "JEYES": for disinfectant fluids, etc. (2) and for antiseptic ointment and soap (3). By Jeyes' Sanitary Compounds Co., Ltd., 99 Regent Street, London, W.1. 521,781/782. (Associated.)
- "WHITE TAR OINTMENT" on circular device including monogram "J. B. T." and word "Antiseptic": for an ointment (3). By J. B. Tillott, 70 Marsham Street, London, S.W.1. B518,950.
- "TETANOL": for metallic salts for treatment of calcium deficiency diseases (3). By British Colloids, Ltd., 22 Chemies Street, London, W.C.1. 521,153.
- "REVERINE": for medicinal chemicals (3). By Bayer Products, Ltd., 31-34 Basinghall Street, London, E.C.2. 22,382. (Associated.)
- "ANTIBACSYN": for medicinal chemicals (3). By Anti-Body Products, Ltd., 57 Bushey Grove Road, Watford. 522,463. (Associated.)
- "ECCORTONE": for medicinal chemicals (3). By Allen & Hanburys, Ltd., 37 Lombard Street, London, E.C.3. 522,708.

Marriages

BARKER—WALLIN.—At the Parish Church, Melton Mowbray, on June 1, George Roydon Barker, chemist and druggist, to Harriet Maud Wallin.

MACLEAN—WRIGHT.—At St. George's Church, Balbriggan, recently, by the Rev. L. A. W. Hunter, LL.D., Louis Campbell Maclean, Ipswich, to Rita Frances, twin daughter of Mr. J. Phillips E. Wright, M.P.S.I., The Medical Hall, Balbriggan.

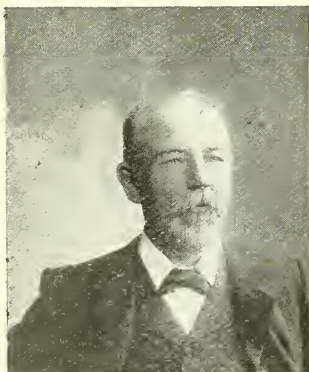
MEDLEY—BATTERSBY.—At Holy Trinity Church, London, N.4, on June 20, George Arnold Medley, Ph.C., Huddersfield, to Hilda Battersby, M.P.S., Salford.

ORME—LOTHIAN.—At St. Matthew's Church, Bayswater, London, W., on June 20, Edward Arthur Orme, M.P.S., only son of Mr. Arthur Orme, M.P.S., Hove, to Agnes Edith Lothian, Ph.C., only daughter of Mr. John Lothian, Ph.C., Portobello, Midlothian.

TAYLOR—MORTIMER.—At Christ Church, Simla, India, on June 6, by the Rev. Canon H. G. England, Denis Ridgway Taylor, M.P.S., eldest son of Mr. Thomas W. Taylor, Abbots Grange, Chester, to Greta, daughter of the late Captain Mortimer, Essex Regiment.

Deaths

BREMIDGE.—At Ealing, London, W., on June 12, Mr. Richard Bremridge, secretary and registrar of the Pharmaceutical Society of Great Britain, 1884-1913, aged ninety. Mr. Bremridge entered the Pharmaceutical Society's office in 1868, during the secretaryship of his father, Mr. Elias Bremridge. He was appointed assistant secretary in 1869, and deputy registrar a year later, eventually succeeding his father as secretary and registrar in 1884. During his long period at Bloomsbury Square, Mr. Bremridge became known as a courteous officer of the Society to a large number of pharmacists, and his



MR. R. BREMIDGE

tact in carrying out responsible duties connected with the Benevolent Fund gained him great esteem. He was till recently a regular visitor at the annual meetings of the British Pharmaceutical Conference.

DAVY.—At a Rotherham nursing home, on June 16, Florence, the dearly loved wife of Mr. Percy Davy, chemist and druggist, Caerleon, Gerard Road.

HYDE.—At Wednesfield, on June 10, Mr. Josiah Hyde, chemist and druggist, aged eighty-nine.

LYON.—At Paris, on June 14, Mr. H. Lyon, director of J. L. Lyon & Co., Ltd., import and export merchants, Crutched Friars, London, E.C.3, aged seventy-two.

MCCOWAN.—At Paisley, on June 8, Mr. Robert Thomas McCowan, chemist and druggist, aged eighty-one.

MORPETH.—On June 13, Mr. George John Forrest Morpeth, chemist and druggist (Duncan, Flockhart & Co., manufacturing chemists, Edinburgh and London).

Personalities

MR. J. H. SMITH, chemist and druggist, Mayor of Dartmouth, has been awarded the Ph.D. degree of Nancy University for a thesis on hexamine and its derivatives.

WITH the retirement, on June 16, of Mr. E. E. Smith, chemist and druggist, H.M. Prison, Holloway, London, N., the prison medical service is losing its senior pharmacist. Mr. Smith joined the prison staff over thirty years ago.

MR. DENIS R. TAYLOR, chemist and druggist, whose marriage is announced on this page, served his apprenticeship with Mr. D. T. Dickinson, chemist and druggist, Chester, and is now chief assistant in the laboratories of Kemp & Co., Ltd., manufacturing and retail chemists, Bombay. Previously, Mr. Taylor was manager of Messrs. Kemp's, Fort branch, where he was succeeded by Mr. Edward W. Fairbrass, chemist and druggist, late of Parkes Chemists, Ltd., London.

Business Changes

TIMOTHY WHITES (1928), LTD., have opened a branch at 125 High Street, Gillingham, Kent.

MR. L. J. HARPER, chemist and druggist, has opened a pharmacy at 11 South Castle Street, Liverpool.

MR. STANLEY A. RICHARDSON, chemist and druggist, will shortly open a pharmacy at 48 Andover Road, Winchester.

THE pharmacy of E. Bing & Son, chemists, 41 St. George's Street, Canterbury, has been acquired by Savory & Moore, Ltd., chemists.

Wills

MR. HARRY SMITH, of Bournemouth, formerly of Port St. Mary, Isle of Man, chemist and druggist, left gross £14,993, net £10,841.

MR. ALFRED WHEATCROFT LEWIS, of 24 Bryngwyn Road, Newport, Mon., chemist and druggist, who died on March 20 last, aged sixty-seven, left estate of the gross value of £3,519, with net personality £415 8s. 8d.

MR. ARTHUR JAMES APPLETON, of 400 Main Road, Darnall, Sheffield, retired chemist, who died on February 25 last, aged seventy-nine, left estate of the gross value of £5,429 1s. 8d., with net personality £5,199 13s. 11d.

Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Wednesday, July 1

South-West London Chemists' Association and Branch of the Pharmaceutical Society. Summer outing to the Old Barn Teahouse, near Hildenborough. Charabancs will leave "The Plough," Clapham, at 2.15 p.m.

Pharmaceutical Society of Great Britain, 16 Bloomsbury Square, London, W.C.1, at 11 a.m. Council meeting.

Thursday, July 2

West Ham and District Association of Pharmacists and Branch of the Pharmaceutical Society, Deepdene, King's Avenue, Woodford, at 3.30 p.m. until 9 p.m. Garden fête in aid of the Society's Benevolent Fund. Admission free.

Observations and Reflections

By Xrayser III

That Sherry Case

on which you commented editorially last week (p. 723), has provided a probably extreme instance of what some analysts are prepared to do, encouraged by the public authorities they represent, in the endeavour to secure legal recognition for their particular fancies as to what the standards for particular preparations ought to be. As it happened, there was a sound case for the defence, and, as you point out, it was submitted to a magistrate with a legally trained mind. While I have not the slightest sympathy with traders who get caught out in the attempt to profit by supplying goods which are not what they purport to be, I feel so disgusted with the persistent endeavours of public analysts to interfere with harmless practices which have been recognised in retail business for generations, and to the public benefit on the whole, that I invariably experience a feeling of satisfaction when public analysts and public authorities are put in their place by magistrates.

Business Changes

in chemists' shops amount to about 500 a year, or so I judge after analysing the figures in a list based on changes reported in the *C. & D.* Changes recorded included the opening of new pharmacies, closing down or disposal of established businesses, and the conversion of private concerns into limited companies. In a period of two and a half years nearly 1,200 pharmacies were shown to have been opened, changed hands, or converted into joint-stock affairs, while between eighty and ninety were closed for one reason or another. No doubt the figures in each case fall short of the actual numbers, since it is not uncommon to find instances of pharmacies being opened, closed or transferred without the facts being published. By far the greatest number were those of individuals or concerns with names commencing with the letter B, the total recorded being 170 as compared with 102 for letter W (including 25 of a multiple-shop concern), the next in order, and 101 for letter S, which came third in the list. Out of the 170 under letter B 54 were additions to the number of pharmacies owned by the premier multiple-shop concern.

Of the Remaining Letters,

I found H coming fifth with 87 changes, T attaining to the sixth place with 84, by inclusion of 39 of another expanding multiple-shop concern. Then came in descending order C with 68, D with 50, R with 48, P with 45, F with 41, G with 40, J with 37, L with 33, A and K with 26 each, E with 23, and the rest in gradually diminishing numbers until Z showed up with 2, and Q and U with 1 each. Incidentally, I noted that many of the new businesses seem to have been started in Scotland.

Something Better,

I suppose, should be expected of one, but I must confess to being a hardened reader of newspapers. From them some most strange information may be obtained, and some curious errors met with. Not very long ago a daily publication, which makes much of its historical notes, had a pretentious note on Christopher Columbus, and the portrait used as illustration was the one and only known drawing of Henry Cavendish! Another important paper, seeking to make a little literary capital out of "Rose Day," ventured to write about the composition and virtues of *rosa solis*,

being, apparently, under the impression that the rose is the essential constituent in that strange compound. *Ros solis*, often appearing as *rosa solis*, is, of course, the sundew, of which the Latin name was quite as familiar to the writers of the seventeenth and eighteenth centuries as the English one. The peculiar appearance of what is a very remarkable plant must have tempted the old herbalists to attribute to it extraordinary medicinal properties. Concerning the name Lyte is to the point with his remarks that "It is a herbe of a very strange nature and marvellous: for altho' that the Sonne do shine hoate and a long time thereon, yet you shall finde it alwayes moyst and bedewed. . . ."

I have been Favoured

by a correspondent (30/7) with the loan of two newspapers, "The Morning Chronicle" of August 26, 1818, and "John Bull" of September 16, 1832. The "Chronicle," as is well known, was a popular paper in its day, and the copy before me bears the number 15,388. It consists of four pages, each divided into five columns, measuring, except in the case of the front page, 19½ in. by 2¾ in.; the "John Bull" comprises eight pages, each divided into three columns, measuring 14½ in. by 3 in. The first page of "John Bull" bears between the two words of the title an illustration comprising a crown and sceptre lying on a copy of the Bible with the motto "For God, the King and the People!" beneath. Many of the paragraphs, in news and advertisements alike, have, at this distance of time, a curious interest. We read, for example, of the improvement in the health of the Queen, who was able to take the air in her garden chaise—"the poney drawing the chair was drove by Her Majesty's coachman, two footmen walking behind"; of the "most unexampled share of happiness and prosperity" enjoyed by the United States; of a new chair "elegantly covered with green" for the Speaker of the House of Commons; of a penalty of £210 imposed on a carrier for having in his possession twenty-one brace of grouse; of the overturning of one of the Glasgow coaches, resulting in injury to passengers; of numerous thefts and other crimes; and of sales by auction.

Turning to Items

of more definite interest to chemists, I notice first, prominently placed at the top of a column in the "Chronicle," an announcement headed "Chemist and Druggist" from a young man who is in want of a situation; his character and connections are apparently both above reproach. A firm of surgeons in Bouverie Street have a long advertisement on the subject of venereal and other diseases, including the recommendation of a 5s. book. A surgeon-apothecary, who is giving up his practice, desires to dispose of his effects and so forth "on very moderate terms." "An experienced chiropodist" recommends a book, price 5s. 6d., on "The Art of Preserving the Feet." The advertisements in "John Bull" are, as might be expected from their later date, of somewhat more familiar type than those in the earlier journal. The chemical lectures and demonstrations of Mr. Brande and Mr. Faraday are announced to be held at the Royal Institution; J. & E. Atkinson, perfumers, 24 Old Bond Street, recommend in a closely printed paragraph their Curling Fluid, Depilatory and Milk of Almonds; Messrs. Butler, chemists, Cheapside, give a list of forty-seven proprietary and other articles on sale; Thomas and William Henry, manufacturing chemists, Manchester, advertise their Calcined Magnesia and Aromatic Spirit of Vinegar; and John Burgess & Son, 107 Strand, set forth the merits of Essence of Anchovies.



John Bell, Lucas & Co. Ltd.

OUR COLLOIDAL
SUNBURN LOTION IS UNIQUE
SUPPLIED WITH CHEMIST'S NAME & ADDRESS

Send for sample & prices

Oxford Works, Tower Bridge Road, London, S.E.1

THE
'FAIRCHILD'
HIGH-CLASS
DIGESTIVE FERMENTS
AND
PREDIGESTED FOODS

'PANOPEPTON,' 'ZYMINE' PEPTONISING TUBES,
'PEPSENCIA,' PEPTOGENIC MILK POWDER, etc.

Originated and Manufactured by

FAIRCHILD BROS. & FOSTER (Inc.)
NEW YORK. 65 HOLBORN VIADUCT, LONDON, E.C.1

Agents—**BURROUGHS WELLCOME & CO.**
LONDON, SYDNEY, CAPE TOWN.

6d. PER BOX

PURITAN
SALTS

Trade Mark Rgd.

A new line advertised with "Nostroline"

ORDER THROUGH THE WHOLESALE

MATTHEWS LABORATORIES LTD., Clifton, Bristol.

Transparit

THE TRANSPARENT WRAPPING MATERIAL

*Insoluble, Odourless, Non-injurious.
Colourless and Coloured, in Sheets, Bags,
Envelopes and Discs.* ASK FOR SAMPLE.

SIER, VOSS & TOMES, 11b Upper Thames St
Phone: Central 9677. LONDON, E.C.4.

PATENTS & TRADE MARKS.

THERE are many worrying difficulties to be overcome in connection with the Registration of Trade Marks and the grant of Letters Patent which members of the Retail and Wholesale Drug Trade can avoid by consulting efficient agents, who would undertake all the trouble for an inclusive fee and obtain protection in the United Kingdom and abroad. Advice in the first instance free. Pamphlets gratis.

REGINALD W. BARKER & CO.
56 Ludgate Hill, London, E.C.4

THE SATISFACTION
VAREEN LIQUID NAIL POLISH
NATUREL, ROSE, DEEP ROSE, OR WHITE

Nail Polish	Polish Remover	Cuticle Cream
1/- size - 7/6 doz.	1/- size - 7/6 doz.	1/- size - 7/6 doz.
1/6 " - 10/6 "	1/6 " - 10/6 "	1/6 " - 10/6 "
2/6 " - 16/0 "		

Suggestion for a Postcard for your SPECIALS. (Singles or otherwise.)

Please send Vareen

To

Charge through.....(Our Wholesaler)

NOTE.—Specials sent by FIRST POST, POST FREE.

VAREEN LTD., 82a Portobello Road, LONDON, W.11.

Telephone - - - - - PARK 9951.

TO ALL CONCERNED!

"TY.PHOO" TEA

IS OWNED BY

Messrs. SUMNER'S TY.PHOO TEA, LTD.

"Ty.phoo" Buildings, Bordesley Street, Birmingham,

who invite applications for terms for what they claim to be "the best paying line in the trade."

(This Company is in no way connected with any other House.)

Editorial Articles

Modernity has Something to Say

IN selecting subjects for our annual Special Issues we have only for guidance the principle that, as far as space allows, all aspects of the pharmacist's vocation shall be represented. It was Thackeray, we think, who left it on record that when he started his characters on their adventures he did not know where they were going to take him. Similarly, when our choice falls on certain topics for our concluding issue for June, we do not at first know what we are going to do with them, nor what they are going to do with us.

Variety in Modernity

The contents of the Special Issue now offered to our readers have "come out," we notice, with a balance on the modern side as distinguished from the historical side; in this respect the issue differs from some of its predecessors. As a consequence of Manchester being chosen as the venue of the forthcoming British Pharmaceutical Conference, we have taken the opportunity of giving an account of the pharmaceutical and allied industries of this great commercial, scientific and artistic centre, with an outline of its deeply interesting history. This, including illustrations in photogravure (a regular feature of our recent Special Issues), is the longest section of the number, but, we think, will be found no longer than the importance of its subject warrants. An ultra-modern note is struck in some of the exterior and interior views of Continental pharmacies, shown on pages 765-768 inclusive; it may be that this type of building has come to stay, or that in this case "youth's a stuff will not endure." In contrast, pharmacy in Nigeria and in the Belgian Congo is dealt with in illustrated articles, both of which give a clear idea of retail business in tropical conditions. The practical side of pharmacy

as an art or craft receives exemplification in Mr. Herbert Skinner's article on tablet-making, a survey full of useful hints on the many problems that confront the dispenser of these medicaments. The Californian citrus industry is the subject of a well-informed descriptive account (illustrated in photogravure) indicating the importance of this organisation and the uses of its products.

A Glance at History

Historical topics, though filling a smaller space than in some Special Issues, have not been overlooked. Several of the pages devoted to Manchester are entirely historical, dealing with its relation to the rest of the realm, its municipality, commerce, culture, churches and hospitals. Dr. Charles Singer completes the series of "Sketches in the History of English Medicine" that he has written specially for *THE CHEMIST AND DRUGGIST* with a masterly account (with photogravure illustrations) of the eighteenth and nineteenth centuries, placing in their true perspective many details usually present as vague outlines in the consciousness of the non-specialist reader. The rather close connection of Henry VIII with medicine and pharmacy has been viewed from different angles by Mr. S. G. Blaxland Stubbs and Mr. Howard Bayles, who have thrown light on manuscripts in the British Museum and the Public Record Office respectively; their contributions include photographs from the original records. Professor Giovanni Carbonelli has contributed a delightful glimpse of eighteenth-century conditions in Piedmont, illustrated by pharmacy pots and apparatus of the period, and by two full-page plates in colour—one, by Pietro Longhi, depicting an Italian druggist applying a remedy, and the other a hospital outpatient department. The mention of plates reminds us of the cover, which shows the doorway of 28 Essex Street—open, of course. The summary on p. 733 indicates where news is to be found.

Chemical Market Review

It is, unfortunately, impossible to describe the general condition of the markets in chemicals, pharmaceutical, industrial, etc., for the first six months of this year as wholly satisfactory, particularly as regards the volume of business transacted. On the other hand, there is good reason for striking a rather more optimistic note than at first appears warrantable. Despite the fact that business has certainly not improved so far this year, and that it follows some two years of dull markets, there is to-day a certain steadiness which reflects soundness and strength.

Except in those instances where values of raw materials have fluctuated, alterations in market values have been restricted to comparatively narrow margins. The operation of a number of price controls, through the medium of home and international conventions, has assisted in maintaining fair and economic prices; fair both to the producer and to the consumer. Occasionally "outside" material has disturbed markets, necessitating a revision of the scale of controlled prices.

During the period under review the competition for business in bromides has been severe and, as a result, values for the three chief salts are 1d. to 1½d. per lb.

cheaper, although they opened the year at low levels. Citric acid has been a disappointing market so far this year. The demand does not seem to have been up to normal, and the position has been aggravated by considerable over-production by the various sources. In January the spot value was 1s. 1½d., less 5 per cent.; to-day the quotation of 11d. less the discount is not attractive. Citrates show a reduction of about fourpence per lb. on the closing prices of 1930. Cream of tartar was at about 87s. per cwt., less 2½ per cent. discount in January. With the market showing no real activity at any time, values have declined to the current figure of 79s. per cwt. Keen competition from a home maker has had the effect of reducing values of lactic acid, and the same comment applies to phenolphthalein, benzoic acid and sodium benzoate. Hexamine has been a keen market with quoted rates discounted. Phenazone, phenacetin, vanillin and a few others have been disturbed at times by cheaper non-convention offers. Tartaric acid opened the year at about 1s. per lb., less 5 per cent. discount, and the market has been weak all the time, and is now at 10½d. to 11d. per lb., less the discount.

Crude Drugs

In the markets dealing in crude drugs, continued and aggravated depression has to be recorded, and prices for some of these natural products have reached the lowest levels ever recorded. The London markets have also suffered from a tendency on the part of foreign buyers to go direct for their supplies and not to use Mincing Lane as the world centre for these products.

Essential Oils

Essential oils have so far had a poor year and the fall in values has been general and rather heavier than was anticipated. Production is in some cases considerably above even normal consumption. The inclement weather in the early part of the summer has, no doubt, affected the demand for the seasonal products. At the moment there is more interest in some of the seasonal products. With this improvement the tone is steadier and prices tend to recover. Any improvement in demand should have the effect of hardening values, as the present levels are mostly uneconomic.

Beauty Culture in Ovid

A FRAGMENT of verse left by Ovid, 100 lines in all, entitled "Libellus de Medicamine Faciei," consists mainly of a comparison between the ancient Roman matron and her successor, followed by a recipe for a product in the nature of face cream. The poem being incomplete, it is not possible to say what scheme the poet had in mind for its continuation; but the exercise of his art on a mere list of ingredients with directions for mixing is not so strange as one might on a casual reading suppose. A few lines from Ovid's poem will serve to indicate its pharmaceutical flavour:—

Arentisque rosæ quantum manus una prehendat,
Cumque ammoniaco mascula tura sale.
Hordea quemfaciunt, illis affunde cremorem;
Æquent expensas cum sale tura rosas.

The recipe, which extends to nearly fifty lines, includes among the ingredients bruised hartshorn, honey, nitre, cerussa and myrrh, in addition to those mentioned in the lines we have quoted. It would be interesting to know whether anyone in modern times has tried to compound this ointment or cream from the recipe. Ovid warns his fair readers that "tempus erit, quo vos speculum vidisse pigebit," and suggests that manners are more important than good looks. Anyone marketing an Ovid's Face Cream would need exemplary courage to include a similarly candid remark in his advertisements.



The Tropical Pharmacist

Pharmacy in Nigeria

By W. A. FINDLAY



The Pharmacist's Stenographer

ONLY a few years ago Nigeria was practically a savage country; but now it is, for the most part, highly developed with railways, buses, telephones and telegraphs, electric light, and other amenities of civilisation. As there

are now a number of European pharmacies established there, a few notes on pharmaceutical life in the colony may be of interest.

Lagos, the chief town of the colony, where most of the English chemists' shops are situated, is built on an island in a lagoon opening directly to the sea, and is consequently very flat—in fact, the highest part of the island is said to be only six feet above sea level. The town contains about 50,000 inhabitants, chiefly native, of course, but including some hundreds of Europeans, and on the whole is well built.

The usual contract is for two years, which includes three or four months' leave at home on full pay. An assistant going out first time would get about £300 or £350 a year with free furnished quarters and first-class passage paid both ways. On this, without stinting himself in any way, he should be able to save about £150 a year, so that three or four years on the coast should enable a young man to save enough to start his business at home afterwards, and the experience gained would be, of course, invaluable. A long range of Continental proprietaries and high-class pharmaceuticals is also carried, and the variety of stock is quite as good as that in any London shop. There is also an extensive photographic trade and plenty of D. and P.; but this is carried out under great difficulties, as the tap-water is usually about 80° F., and melting of films during washing is a common occurrence, even after hardening with formalin.

Business hours are from 7 a.m. to 12.30 p.m., and 2 to 5 p.m., with a half-day on Saturday. Officially there is no Sunday opening, but calls on that day are common. Customers range from the illiterate native, who points to the seat of his pain as the only possible indication of the medicine required, to the super-educated and slightly nauseous type, beautifully dressed in shining whites and sun helmet, with his "Good morning. Can you oblige me with a bottle of Pearce's Pleasant Pellets?" in the best highbrow manner. There is the Youruba, the local native, amiable, unintelligent and congenitally dishonest; the Hausa, from the north, dignified and reserved, but a mean thief if he gets the chance; the Warri-man, always with a tightly rolled umbrella balanced crosswise on his head, whatever the weather—dozens of different races, dozens of different tongues, so that the English one-and-six becomes "Sile-k'abo" to the Youruba and "Sile-kon-si" to the Hausa, but all with two characteristics in common—all dishonest and all lazy.

Many customers are Europeans, of course: young traders, Government officials, officers of ships of all nationalities, and French officials from the French colonies on the north. These latter are tremendously polite, and there is much bowing and hat-raising as they enter, and courteous shrugs and smiles as they try to explain their wants.

The pharmacy managed by the writer employed two English chemists, two qualified natives, six unqualified dispensers, and half a dozen labourers and servants, and gave house room to a further gang of hangers-on, relatives and friends of the staff,

all of whom seemed quite content to sit in the sun and eat when anything came their way. The dispensers were kept busy with a steady stream of prescriptions from native doctors, besides the two resident European ones and medical officers of the ships in the lagoon. The dispensing was good, or rather, the prescribing was, as it was impossible to make the dispensers take any pride in their work, and unless under constant supervision they sent it out in a very slovenly fashion.

The writer was most concerned with the postal and wholesale side of the business, and this was very extensive. Nigeria is twice the size of France; as, at that time, this was the only European pharmacy in the colony, a large postal business was done, and dozens of letters and orders were received daily. Some of these from natives were very amusing, and of these the following is a fair sample. It is written in green ink on very flimsy paper, and is almost unreadable:—

"Dear Sir, Yours letter was received including 2/9 stamps, but the goods was not yet receive. More medicine required. I hardly want it, the medicine which can make or take off persons white hairs from their head and remained only black hairs in the head, please try to let me get it, I constantly to be the most of your customer and existence permanent worthy while enclosed best regards to you . . ."

But it is in the writing of begging letters that the African really shines—witness this example, word for word copied from the original:—

"My dear master, I have the honour most respectfully to approach you this my humbly note, to begging you to kindly enough to put more 5/- up on that my wages money, because that my pay is not enough to buy chop [food] before cloth. As you know very weel that Lagos is very hadr for everythings. Even you know that I am always borrow money from you, also I used to borrow from another peoples too. I thanks God that I got one sister who always helped me for chop, if is not she I will be much sufferation. With all respects, Sir, I am your humble and obedient servant. . . ."

On the wholesale side, customers included Government departments, trading firms, native doctors and hospitals, and missionary organisations all over the country, some nearly 1,000 miles away. One order from the Government comprised over fifty items, ranging from 200 lb. of cotton-wool, 2 galls. of s.v.r. and 3 cwt. of mag. sulph. to 100 tubes of neokharsivan, 10 lb. of ol. santal. flav. and 5 galls. of tr. iodi mit.

The cares of business finally disposed of for the day, it was the writer's habit to travel by motor-cycle a few miles away from town, and then leave the road and plunge into the bush on foot. So close to the town no large wild animals were to be expected, and the only danger likely to be met with was from snakes, and these were given a wide berth whenever encountered. To one of botanical tastes the West African bush is a veritable feast, and many plants of pharmaceutical interest were identified and studied.

Lo Speciale

by

Pietro Longhi



PHYSICIAN AND PHARMACIST IN AN EIGHTEENTH-CENTURY ITALIAN PHARMACY

This painting, called "Lo Speziale" ("The Pharmacist"), by Pietro Longhi (1702-1785), "the Italian Hogarth," in the Royal Galleries of the Academy, Venice (Accademia di Belle Arti), depicts the interior of an Italian country pharmacy of the eighteenth century. The physician, seated at the table, is writing a prescription, while the pharmacist, standing, applies to the patient's mouth the remedy ordered by the doctor. In the background are two other patients, waiting to be examined and treated. Note the collection of pharmacy jars on the shelves. Other excellent life studies by Longhi are to be seen in the National Gallery, London, in the Louvre, as well as at Venice.

Colour Photo, Alinari.

PHARMACY RELICS IN PIEDMONT

Notes on the Apparatus and Practice of the Seventeenth and Eighteenth Century Italian Apothecary

(With two contemporary paintings reproduced in colour)

By Dr. GIOVANNI CARBONELLI

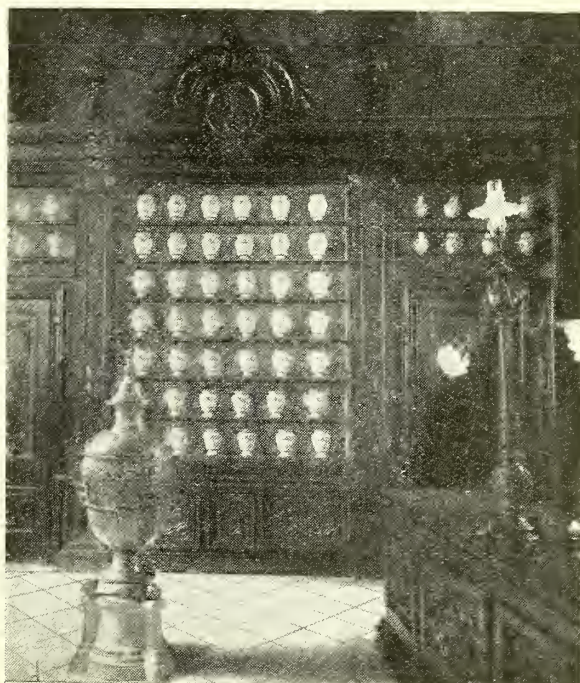
(Director of the Istituto Nazionale Medico-Farmacologico, Rome)

DURING the closing years of the seventeenth century the city of Turin founded its new and large hospital, incorporating several architectural features, and imposingly built by the architect, the Conte di Castellamonte, who planned the hospital pharmacy near the great entrance and designed its shelves, counters and doors, which even now we may look at and admire in their original positions. But of whatever importance the work of the Piedmontese cabinet-makers of those times may have been in this direction, from our point of view this is greatly enhanced by the fact that we find in their places on the shelves the major part of the pharmaceutical pottery and containers in lead and pewter which formed the ancient working utensils and chattels of the hospital pharmacy.

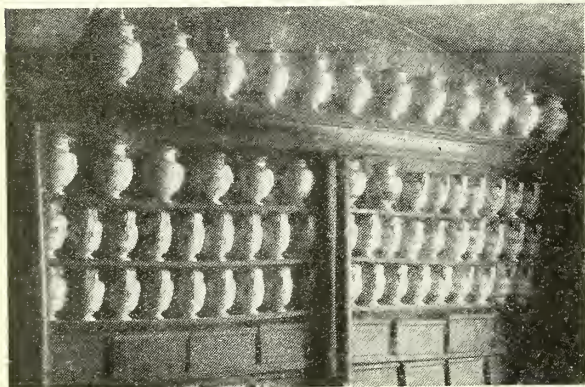
In all 177 containers of glazed pottery may be counted, which show a variety of different shapes, containers of lead and pewter of varying size and form, as well as two very large ones in pewter decorated with bronze for the theriaca and mithridate. Actually in the pharmacy of the Hospital St. Giovanni 260 old jars are to be enumerated, including the following of metal: Large cylindrical, six; metal containers, with lids, fifty-four (of which two are larger than the rest); small metal *pillularii*, with lids, twenty-six; and two very large jars for theriaca and mithridate. Of earthenware, the collection includes the following: Blue pottery (with bulging sides, somewhat in the shape of a pitcher, i.e., tapering towards the neck and widening again towards the mouth), twenty; blue, with concave sides (shaped something like a reed stem between two nodes), three; white, decorated with flowers, ten; white, decorated with flowers, and with concave sides, two; yellow pottery, seventy-five; yellow jars, pitcher shaped, sixty-five. A very elegant set of pottery in white, decorated with garlands of oak leaves of a magnificent brilliant green round the base of the jar, and with other ornaments in green towards the neck and inscriptions in bistre (a brown colour made from soot and much used by painters in those days) was the substitute for the original jars in case of breakage or other damage. This set was to be substituted by jars in white and decorated in yellow and bistre with small heads of bulls, front view in relief and painted yellow, inscription in bistre. This type is the most numerous, because relatively the most recent, and dated from the second half of the eighteenth century. Besides the pottery and jars we must add to the pharmaceutical chattels now existent the copper utensils "cucurbita," and large flasks for distillation, pans for water baths, and the colossal screw-press. All of which, taken together with the fact that all this material is to be found in the ancient setting for which it was made, clearly shows how the profession was exercised in a large pharmacy some three centuries ago.

The small picture in the possession of the Vercelli Museum depicts the work of the pharmacy of the ancient hospital of this city in full swing at the moment

when the physician, having finished his round of the wards, enters the pharmacy in order to supervise the compounding of remedies prescribed, and, as it were, to superintend the out-patients' department by attending the poor people who presented themselves to the pharmacy for treatment. The scene represented in the painting is very varied and full of movement. A wall divided in two parts by a door constitutes the background of the picture to the right, and to the left of the door are arranged the pharmacy jars on four shelves on the right-hand side and three on the left. Beneath the jars at the right are two sets of drawers, to the left two rows of wooden boxes. Above the door there is a small glass case containing three rows of small jars. Ten adult persons and two children are moving about the two large counters which divide the pharmacy proper from the space allotted to the public. The principal scene of the picture is formed by the physician seated to the right of the counter, who listens to the, perhaps, importuning words of an old woman who stands near, ceasing to write for the moment as he listens. A youthful pharmacist, who is pounding in a mortar some powder for the preparation of number of powders, of which three are already prepared, is looking also at the old woman, and another



ONE SIDE OF THE TURIN HOSPITAL PHARMACY
Showing large decorated pewter container and part of counter



PHARMACY IN FELIZZANO

(Left side above ; right side below, with drug chests)

pharmacist is showing a jar in the act of demanding if that might be the medicament required; further removed, another youth, near to the door jamb, stands cavedropping as to what these three are saying.

Through the central door a pharmacist enters. He has the appearance of being the head dispenser carrying a jar brought from the laboratory or dispensary situated behind the pharmacy and a glimpse of which may be caught through the doorway. This is the principal group. Two others, smaller, are: On the right a youth, at the top of a ladder on which he has mounted, receives or hands down a large jar for which one of his colleagues is holding his hands outstretched; in the other group, to the left, there is a woman leaning with her elbows on the counter; an old bearded monk is waiting to be served by the pharmacist. In the background, through a glass pane, there is yet another person, so indistinct that it is impossible to determine exactly how he is occupied. In the foreground of the painting there are two ragamuffins; one is importuning the doctor, presenting to him a recipe, and the other is playing with a small dog. The unknown painter has fixed in his picture a scene which took place over and over again in the large pharmacy annexed to one of the largest hospitals in Italy at that time—the Hospital of Vercelli.

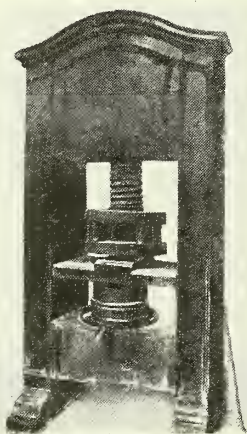
The pharmacy pots are of the ordinary type, and are placed on simple open shelves, not provided with glass, according to the custom at that time. There is no artistic cabinet work or carpentry in their form,

except the small cupboard with glass doors placed above the door, which is decorated with a carved frieze, and which contains small jars to hold the more precious pharmaceutical substances. The last object is a column, apparently of marble, which supports a jar of large capacity, probably containing mithridate or theriaca. The pharmacy of the hospital of Turin is an interesting example of a large pharmacy provided with a laboratory for the preparation of medicinals. We can still see the pharmacy pots and jars, apparatus and utensils of copper and glass, presses and other pharmacy fittings, which for nearly four centuries have attested how the hospital pharmacy rendered its service to the public.

As well as the large well-appointed pharmacies there existed in Piedmont others of more modest pretensions than ordinary; in the smaller centres these were conducted by the brothers of religious orders. We have a specimen preserved in its integrity in the ancient pharmacy of the Capucine brothers of Novi-Piemonte, removed a hundred and fifty years ago to Felizzano Piemonte.

The shelves are of a more simple and modest appearance, but even so they show a distinctive elegance on account of their simple construction. Artistic taste, however, demonstrates itself in the shape, form and ornamentation of the jars. The large jars with their covers in majolica, cylindrical and other pottery number in all 140, are painted in blue on a white ground with inscriptions in black, and all have the arms of the monastic order of Franciscans and the monogram of the monastery from which they came. Below the jars are arranged on the shelves the small boxes made of wood and destined to contain medicinal herbs and roots. The two examples reproduced show the setting conveyed (or transmitted) from times more ancient, and continued up to about the middle of the last century.

The daily round which was carried out in these places with relations between physicians and druggists and the public, who needed the science of the former and the practical skill of the second, is made plainly known by the Vercelli painting, and by another of P. Longhi (1702-1785), preserved at Venice. The physician, seated, is intent on writing a prescription; a jar is placed before him on the table; the pharmacist, standing, dressed as customary, wearing a pair of large spectacles, is applying to the mouth of a young girl patient the remedy prescribed by the doctor. Two other sick people seated in the background are waiting their turn to be seen, prescribed for and perhaps cured.



OIL PRESS



COPPER APPARATUS

Bearing hospital arms in bronze (lamb on book above ; bull rampant—Turin civic emblem—below)



HOSPITAL PHARMACY IN AN ITALIAN CITY IN THE EIGHTEENTH CENTURY

This vigorous painting by an unknown artist shows the busy pharmacy of the hospital of Vercelli in the seventeenth to eighteenth centuries, then one of the largest hospitals in Italy. The physician, seated in red coat and breeches, writing prescriptions, supervises at the same time both the compounding of the remedies and what amounts to the out-patients' department of the hospital. The painting is fully described in Dr. Carbonelli's article.

Courtesy of Dr. G. Carbonelli.

*The Chemist & Druggist
Special Issue,
June 27, 1931*

Hospital Pharmacy of Vercelli

by

An Unknown Painter

SKETCHES IN THE HISTORY OF ENGLISH MEDICINE

V. Daylight: The Eighteenth and Nineteenth Centuries—the Medical Schools, Surgery and the Public Health—Boerhaave, the Hunters, Pringle, Lind, Jenner, Chadwick and Simon

By CHARLES SINGER, M.D., D.Litt., F.S.A.

(Lecturer in the History of Medicine in the University of London)

IN the realm of medicine the seventeenth century may be regarded as the period of revolt against mediæval usages. The experimental method was, however, still on its trial. By the time that the century ended the conquests of science in all departments had established the new manner of investigation once for all. The learned societies—chief among them being the Academie des Sciences at Paris and the Royal Society in London—had become the professed exponents of "experimental philosophy," or *science*, as we now call it. This position they retained throughout the eighteenth century, and hold to this day. In physics the discoveries and inventions of Galileo and Newton and their disciples, in chemistry the many advances of Boyle and his followers, in physiology the new point of view introduced by Harvey and the Italian experimenters, in anatomy the work of the Paduan school and its French and English followers, and in medicine—in the restricted sense—the study of the natural history of disease introduced by the "English Hippocrates," Thomas Sydenham, had combined to transform completely the whole face of medical practice. After such drastic changes there came naturally a period of pause for the exploration of the new departments of knowledge, for their systematisation, and for the more cautious estimation of their value. Such was the eighteenth century, a period of review, of extension, of arrangement, of criticism, of system rather than of revolutionary change.

Perhaps the most important advance made in the teaching of medicine during the eighteenth century was the emphasis that came to be laid on bedside instruction of students. The actual practice by which the professor conducted University students round the wards had been sporadically followed in the Italian universities in the sixteenth century. It was inaugurated as a regular custom at Leyden in 1636. The medical departments of that University had developed greatly during the remainder of the seventeenth century, and the establishment of botanic gardens and museums had added to the practical character of the teaching there. The most significant change came, however, with the very dawn of the eighteenth century, for 1701 was the year in which Hermann Boerhaave (1668-1738) was appointed as professor of medicine there. That great physician is the true begetter of the scientific medical curriculum in England.

Boerhaave was a most humane, generous and kindly physician. He was a man of the widest culture, of enormous learning and of unusually penetrating judgment. By reason of his orderly mind, his power of systematic presentation of his great store of knowledge, and by love for the subject, which he expounded so admirably, he rapidly became the leading medical teacher of the age, to whom students flocked from every European country, and notably from England and Scotland. Boerhaave was, everything considered,

probably the greatest physician of modern times. No one inspired greater enthusiasm in his pupils. Among these, two are worthy of special mention. The first was Albrecht von Haller (1708-1777), a member of a noble Swiss family, who devoted a large part of his prodigious activities to the extension of physiological knowledge. With him physiology passed to the modern phase. His most important works were early translated into English, and formed the foundation there, as elsewhere, of the scientific medical tradition. The second great pupil of Boerhaave with whom we are specially concerned was the Scot, Alexander Monro (1697-1767).

MONRO *primus*, as he is usually called, after a time in London and Paris, where he acquired a knowledge of the physical science of his day, came under the spell of Boerhaave at Leyden. Returning to Scotland he was appointed in 1720 the first professor of anatomy at Edinburgh University. For forty years he lectured regularly in the systematic manner of his master, beginning with the history of the subject, then treating of the bones, next describing the soft parts, following this with a discussion of the relations of the anatomy of man to that of animals, continuing through a description of surgical operations and ending with an account of general physiology, or the "Institutes of Medicine," as it was then called. He was a man of great intellectual vigour and originality.

Alexander Monro *primus* was succeeded by his son Alexander Monro *secundus* (1733-1817), and he, in turn, by his son Alexander Monro *tertius* (1773-1859), who brings the dynasty down to quite modern times. Under the Monros the University of Edinburgh was firmly established as the predominant medical school of Great Britain. At that time the medical endowments at Oxford and Cambridge were grossly misapplied, and throughout the eighteenth and earlier nineteenth centuries produced no effective medical fruit. In London, on the other hand, there was much scientific medical activity; but nearly all the best teachers, as well as nearly all those who advanced medical knowledge, were scions of the Scottish schools. It is not too much to say that the Scots ruled British medicine for a century and a half, and they ruled it well. Among the ablest who thus came to London from the North were the two brothers William and John Hunter, their nephew Matthew Baillie, and the great surgeon and experimenter, Sir Charles Bell.

William Hunter (1718-83) trained both at Glasgow and Edinburgh. He was a highly successful physician, a courtly man and a collector of great judgment whose museum and library now adorn the University of Glasgow. His most important work was the improvement that he introduced into the practice of midwifery. Matthew Baillie (1761-1823), nephew, pupil and heir to William Hunter, may be described as the father

of pathological study in England. He performed many *post-mortem* examinations. In his books he followed a new and convenient arrangement, according to organs rather than systems. Sir Charles Bell (1774-1842) was a most attractive character and an admirable artist, whose works "On the Hand" and "The Anatomy of Expression," illustrated by himself, are still read. His greatest achievement is his demonstration that the anterior roots of the spinal cord convey motor and the posterior convey sensory nervous impulses. This discovery forms the basis of modern neurology. Sir Charles Bell acted as surgeon to the British forces at the battle of Waterloo. Incomparably the greatest of the group was, however, John Hunter (1728-93), who may be described as a stepson rather than a son of the Edinburgh school.

DESPITE the absence of any great novel principle in the surgery of the period, there can be no doubt that a new spirit was introduced by John Hunter. His complex and interesting character demands more searching treatment than it has yet received. As an investigator his powers were superb, but he was handicapped at every turn by his literary incoherence. He was incapable of putting on paper in any intelligible form the thoughts that were surging in his mind. Nevertheless, with him surgery begins to appear, at last, as a real science and not as a mere combination of anatomical knowledge and manipulative skill. Hunter brought to bear on the subject a mind stored with ideas drawn from comparative anatomy and pathology. Quick to detect analogy, penetrating in scientific judgment, tireless and unsparing of himself in his pursuit of truth, he was a victim of disease experimentally self-inflicted in the service of science, to which he was tragically a martyr in his death, and shows as a heroic figure, rendered no less heroic by some very human failings. Fully to appreciate so incoherent a writer, it is unfortunately necessary to wade through many works written in his own clumsy and ill-arranged manner. To gain any real idea of this great personality we must consult the writings of his contemporary colleagues.

So far as actual advances are concerned, three may be connected with Hunter's name. First, in various matters of surgical technique, and notably in the treatment of the deadly condition known as "aneurysm," he introduced methods of operation which are still in vogue. Secondly, he founded dentistry as a science, by the admirable observations and experiments that he recorded in the only systematic treatise that he was ever able to produce, "The Natural History of the Human Teeth, explaining their structure, use, formation, growth and disease" (1771). Thirdly, he enormously improved the method of making and ordering a museum. His monument is the Hunterian Museum in London, based on his specimens, of which many may still be seen there. The museums of natural history, as now constituted in all civilised countries, have been influenced by, if they have not been derived from, that which he literally gave his life's blood to found. He was right when he said, musingly, in his illness, "You will not easily find another John Hunter."

SUCH men as Hunter represent the spirit of eighteenth century science at its best. But the typical physician of the age was far from being an enthusiastic scientific investigator. Had we to choose a man as a type it would be rather witty, whimsical, foul-mouthed, cynical, old Messenger Monsey (1693-1788). His speaking likeness betrays the character of the medical attendant of Sir Robert Walpole and Lord Chesterfield, the rival of the Earl of Bath for the affections of "Fidget" Elizabeth Montague.

The eighteenth century saw the beginning of what we now call "Preventive Medicine." The only sections of society in which at that time scientific medical principles could be applied directly to the mass were the military and naval forces.

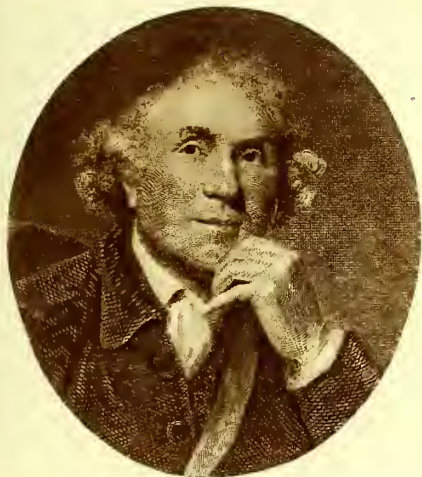
Among military medical reformers an important place is taken by a Scottish pupil of Boerhaave, Sir John Pringle (1707-82). He had a large military experience in the British army and occupied a position of great influence as president of the Royal Society. He was thus able to get many of his views and reforms generally accepted. Pringle was among the first to see the importance of ordinary putrefactive processes in the production of disease, and quite the first to apply these principles in hospitals and camps. He identified "gaol fever" or typhus with "hospital fever." He laid down important rules for the hygiene of camps which involved avoidance of marshes, proper drainage and adequate latrines. His most permanent service was probably his suggestion that army hospitals should be regarded as neutral, and be mutually protected by belligerents. This great physician is a good illustration of the "new humanity" which came into public life in the eighteenth century.

Hardly less important than the work of Pringle for the Army were the labours for the Navy of his brother Scot, James Lind (1716-1794). Lind was also a pupil of Boerhaave. He had a long naval experience, and in 1753 wrote an important work on scurvy, then a very common and fatal disease at sea, and even on land. He demonstrated how this might be prevented by the adequate use of fresh fruit, or, when this was unavailable, of lemon juice. Fresh water had always been a difficulty of sea voyages. Lind arranged for sea water to be distilled for the purpose. He introduced rules for the prevention of typhus on ships, and made great improvements in naval hygiene; and his important "Essay on Diseases of Europeans in Hot Climates" (1757) opened the campaign for the conquest of the tropics.

A WORTHY representative of the "humane school" was Captain James Cook (1728-79), the explorer, who adopted Lind's principles. He established a record in one of his voyages to the South Seas. The voyage lasted three and a half years and involved many hardships; but out of 118 men only one died of disease, and he was consumptive when embarked from England. Of a different type was the Manchester health reformer, Dr. Thomas Percival (1740-1804), who worked to introduce the reforms of Pringle and Lind into civilian life. Percival is usually regarded as the founder of the formal modern system of medical ethics.

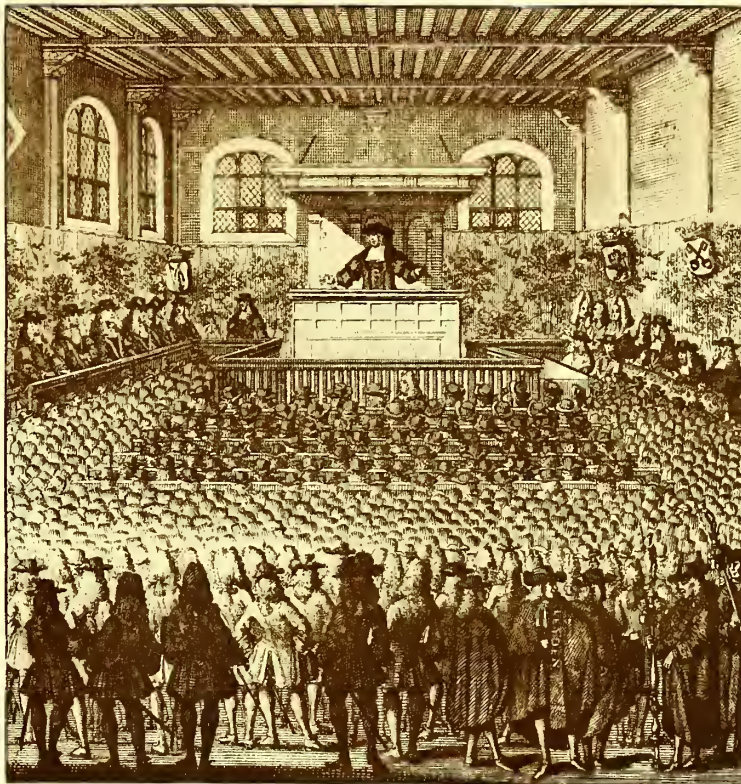
Pringle, Lind and Percival had their humanitarian parallels outside the strict realm of medicine, and notably among prison reformers. Scientific attempts to improve the ventilation and sanitation of prisons had been instituted by the Rev. Stephen Hales, who was the most important English physiologist of the century. None brought greater devotion to the task than John Howard (1726-90), a native of London, who spent his vigorous powers in investigating the entire penal and hospital systems. His researches extended to the hospitals, quarantine stations and prisons of France, Flanders, Holland, Germany, Italy, Greece and Turkey. His reports were directly instrumental in the improvement of the hygiene of such institutions as well as in the establishment of special fever hospitals in many countries. Some aspects of Howard's work were carried on by the great Quaker philanthropist Elizabeth Fry (1780-1845).

During the eighteenth century the character of English civilisation became modified by a factor which has since deeply influenced all civilised countries. There was a rapid increase in the number and size of the towns. The main cause of this was the transformation of industry by the use of mechanical power. The change that resulted in the life and outlook of the people was very profound. These changes and the causes that gave rise to them are usually spoken of as the "industrial revolution." The effects of that revolution have been both wider and deeper than those of any other single upheaval in history. With the mechanical elements that were at the back of the industrial revolution, such as the improvements in transport, the invention of



JOHN HUNTER

Engraved after
the painting by
Sir Joshua
Reynolds.



HERMANN BOERHAAVE

Lecturing to his students at Leyden.
From the title page to his
"De Comparando Certo
in Physicis," published
at Leyden, 1715.

**ALEXANDER
MONRO, Sen.**

Monro Primus.
Engraved after
the painting
by Allan
Ramsay.



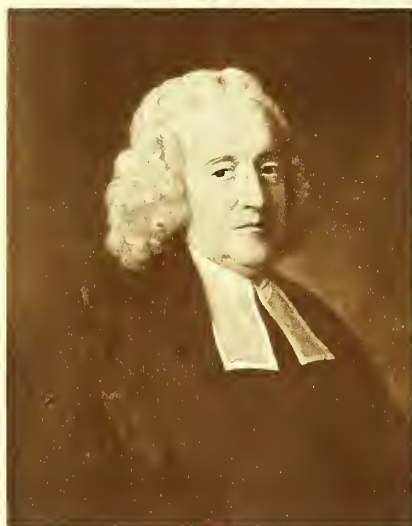
**WILLIAM
HUNTER LECT-
URING ON ANATOMY**

Using a muscular model, a cast
and a skeleton to demonstrate
the surface muscles to the
students of the Royal Academy.

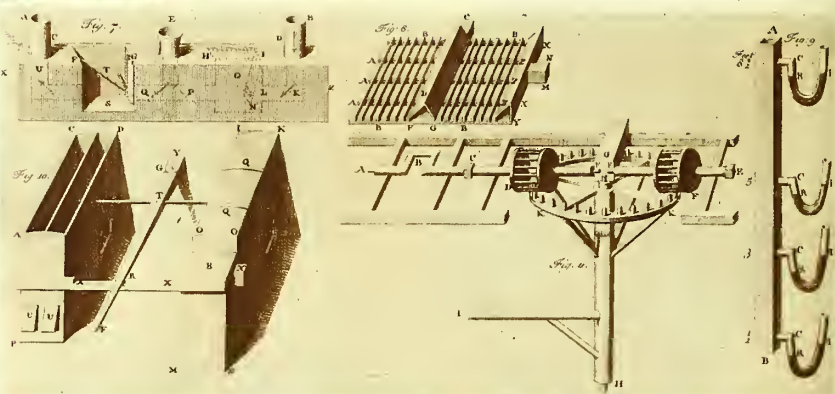
From the
painting by
Zoffany, in the
Royal College of
Physicians of London



Left: The "Discovery," Captain Cook's ship (third voyage) as a Deptford convict hulk (Print of 1829 in Lloyd's Library). Cook was a naval hygienist as Sir John Pringle (above) was a military hygienist. (After Sir Joshua Reynolds.)



The Rev. Stephen Hales, physiologist and inventor of ventilating apparatus. Right: Plate from his paper, "A Description of Ventilators," read before the Royal Society, 1741.



An outstanding example of the town growth due to the Industrial Revolution. The engraving shows Manchester and Salford in 1730. Above is a summer-day view from Peel Park, Manchester, in 1930.

FIGURES AND FEATURES IN TWO CENTURIES' HISTORY OF HYGIENE AND PUBLIC HEALTH

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industrial machinery, the enclosure of common land, the new position of agriculture, we are not here directly concerned. What does affect our story is the increasing urbanisation of the population—the flight from the land—which began early in the eighteenth century, accelerated rapidly soon after the middle of the eighteenth century, and has progressed continuously until within the last few years when, owing to improved means of communication, the process is beginning to abate. In the matter of the increase in size—both relative and absolute—of her industrial towns England is but a type, for all other civilised countries have followed in her wake, though at a somewhat later date.

Along with the growth of towns and the increased population there was a demand on agriculture for an increase of food supply. The country thus became better cultivated and better drained, and the needs of the day provided the stimulus for many improvements and inventions in agriculture. Following on a better agriculture certain diseases began to abate, notably malaria, essentially a disease of undrained and ill-cultivated lands, and scurvy and rickets due to inappropriate diet.

IT is often assumed that the physical evils of life became accentuated by the rise of the great towns. Nevertheless, investigation shows that the opposite has been the case. During the eighteenth century men and women began to crowd into the great towns from the country. They were, in fact, right in their choice, for their chances of life there were greater than upon the land. In the rural districts infamous housing conditions, overcrowding beyond anything which we now encounter in our worst slums, exposure to weather, uncertainty and fluctuation in the prices of commodities, low wages, impassability of roads in winter time, inaccessibility of medical aids, combined to render life, and especially child life, more precarious than in urban areas. It is thus ridiculous to represent the rise of the great towns as a misfortune. On the contrary, it corresponded to a rise in civilisation in all classes, but especially in the labouring class.

The improvement of hygienic conditions in the towns began in England soon after the middle of the eighteenth century. Westminster obtained an Improvement Act in 1762, Birmingham in 1765, the City of London in 1766, Manchester in 1776, and most of the other provincial towns soon followed. As a result of such Acts noisome streams which were but open drains were covered in, the streets were paved and lighted, and the sewers improved. There were still many glaring defects of sanitation which have occupied, and still occupy, reformers, but by the end of the eighteenth century the general appearance of a street in one of the more advanced cities was much what it now is. The change from the mediæval conditions of a century before was at least as great as the changes that have since taken place.

BUT if the streets had improved there was much under and around which would horrify us. Water supply, as in London, was usually drawn mainly from surface wells and rivers. In most towns a continuous water supply was unknown. Even when water mains existed, the supply to the houses was limited. Thus, even in the early nineteenth century London houses had a water supply only three times a week, and then only for a few hours at a time. The water mains were often defective, and there was not always that clear distinction between a water main and a sewer that we now regard as desirable. Floods were a constant trouble in all riverside towns. Cesspools were in use even in London as late as the middle of the nineteenth century, and water-closets did not become general, even in the better houses, until about 1828. The methods of disposal of sewage hardly bear relation. In London the sewage simply polluted the rivers.

In the absence of any complete means of State control, it is no wonder that epidemics were more numerous

and more severe than they are now. Over one department of public health there was some degree of State supervision during the eighteenth century. The ports were guarded against the introduction of epidemic diseases, and especially against the entry of the plague. Throughout the eighteenth and early nineteenth century plague was more or less endemic in the Near East, whence it extended its ravages from time to time to various parts of Europe. It was epidemic in Russia in 1709, and some 150,000 died of it. In 1719 it spread to Eastern Central Europe. One historic outbreak was at Marseilles and Toulon in 1720, when 90,000 died. The outbreak caused great alarm in England, and quarantine preparations were carefully made. Nevertheless, the disease did not reach this country, nor has it since visited here, save in the form of sporadic cases. With our modern knowledge quarantine is regarded as antiquated, vexatious, inhumane, expensive and ineffectual. It seems probable, however, that during the eighteenth century, when drastically enforced, as in France with the Marseilles epidemic, it had indeed the effect of keeping the disease within bounds. Incidentally, it led to the foundation of many plague hospitals or "lazarettos," as they were called, of the conduct of some of which Howard speaks well.

DURING the eighteenth century small-pox was never absent from this country. From time to time the disease became epidemic, and there were grave and fatal outbreaks. Thus, in 1774, there was an outbreak of small-pox at Chester. Next year an investigation was made of the degree to which the population had suffered. It was then found that before the outbreak there were in Chester only 15 per cent. who had not already had the disease. The incidence on those unprotected by a previous attack was 53 per cent., with a death-rate of about 17 per cent. of those actually infected and of about 9 per cent. of the entire unprotected population.

With the certainty of contracting small-pox before their eyes, men sought a way of getting it in a mild form. Outbreaks of small-pox varied greatly in virulence, and infection with a mild form would lead to protection from a graver one. In the East a method of direct inoculation of the disease from a patient suffering from a slight attack was widely in vogue from an early date. The practice attracted little attention in Europe until Lady Mary Wortley Montagu (1689-1762) studied it at Constantinople. It was then soon taken up in England, and became recognised on the Continent.

The efforts of Lady Mary in England were reflected on the other side of the Atlantic. The famous Puritan leaders, Increase Mather (1639-1723) and Cotton Mather (1663-1728), turning from their exploits against the witches, ardently urged the operation. In England the learned Dr. Richard Mead (1673-1754), an eminent and far-seeing physician, who exercised very great influence on the medical world in his day, and whose advice concerning the advent of the plague was eagerly sought, published in 1747 a work in which he supported the practice of inoculation with all the weight of his authority. During the subsequent half-century the practice spread widely. The operation was largely in the hands of special inoculators, who were seldom medical men.

Such was the state of affairs when the country practitioner, Edward Jenner (1749-1823), came upon the scene. He had seen reason to believe that sufferers with the disease known as "cow-pox," well known on the farms in Gloucestershire, where he was in practice, seldom or never suffered afterwards from small-pox. In 1796 a dairymaid became infected with a disease of the udders of cows, distantly resembling small-pox. She developed pustules on her hand. Jenner inserted a little of the matter from one of these into the arm of a boy of eight, who developed typical cow-pox. Jenner next inoculated this boy with small-pox, which, however, failed to develop. The evidence, so far as it went, was complete. It is an entire justification of

what might seem nowadays to be a reckless experiment. that at that time inoculation of small-pox was a normal and effective defensive procedure. The disease of cows has since become known as "vaccinia," and the process of inoculating it as "vaccination."

The discovery of vaccination, important though it be, is a mere trifle compared to the train of new work and new thought that has been opened out by it. The whole study of immunity, which had now become an independent science, arises from it. The work of Pasteur, Lister and Koch, and a large part of modern therapy, are among the achievements of this movement.

Besides plague and small-pox many other epidemic diseases became more clearly understood during the period we are considering. Among these was scarlet fever, the history of which is particularly interesting for the variations which it has shown in virulence. It first became clearly recognisable as a mild disease without prominent symptoms about 1650. Good observers in the half-century that followed considered it a new disease. In England it continued to be of little importance till about 1748, when it began to be associated with grave throat symptoms and to be confused with diphtheria. This phase continued for about ten years. The virulence then dropped, and the disease continued of slight consequence till 1785. It then grew virulent again and remained so till about 1808. The malignancy then fell again and remained low for about thirty years. It rose about 1837, and from then till 1884 it was one of the great killing diseases, especially of childhood. Since then the mortality from it has steadily decreased.

IT is no part of the design of this article to discuss the vast changes that have been introduced into medicine in the nineteenth century. There is, however, one aspect of those changes that we shall mention, since the reforms of the eighteenth century are clearly continuous with those of the period that follows. It is the modern system of public supervision of health and public responsibility for the restriction of the spread of disease that owes most to the eighteenth century. Here the pioneers were Thomas Southwood Smith (1788-1861) and Edwin Chadwick (1800-90).

Thomas Southwood Smith was a Unitarian minister, and long combined this office with that of physician. Settling in London in 1820 he came under the influence of the philosopher Jeremy Bentham (1748-1832), one of the greatest political thinkers of all time. By his essay on *The Use of the Dead to the Living*, Southwood Smith did something to remove the odium attached to dissection. The scandals of the time and the common sense of the "utilitarians," whose natural leader was Bentham, resulted in the passing of the Anatomy Act of 1832. This introduced a proper legal process by which bodies became available for dissection by medical students. Bentham died just before this Act became law, and by his will left his body to Southwood Smith to be the subject of dissection and of an anatomical lecture.

Southwood Smith's services to the spread of interest in public health were very numerous. He circulated a simple and popular "Philosophy of Health" (1835). He served on a board of inquiry as to the condition of children in factories, and he was especially useful to the Poor Law Commissioners by reason of his exceptional knowledge of fevers. He was the founder of a "Health of Towns Association" (1840), and of another association for "Improving the Dwellings of the Industrial Classes" (1842). In 1848 he became a member of a new government department, the "General Board of Health." His official reports on quarantine (1845), cholera (1850), yellow fever (1852), and on the results of sanitary improvement (1854) were of world-wide use.

EDWIN CHADWICK (1800-90), who was not a medical man, introduced to public notice what he called the "sanitary idea," a conception that coloured the whole of his extraordinarily active life. He sat on Government Commissions on poor law, on police, and on the investigation of the condition of children working in factories. One of his reports (1833), issued while he and the century were both in the early 'thirties, recommended a system of inspection with a view to limiting children's hours of work. The current system of pensions and of trade instruction to soldiers and sailors is the descendant of a scheme of Chadwick's devising. An item in the evidence attached to one of his reports is the public provision of open spaces for recreation, a topic of current interest at the moment of writing.

At the time of the accession of Queen Victoria in 1837 Chadwick was agitating for the appointment of a Sanitary Commission. Two years later, as a result of a grave epidemic outbreak in London, the Commission was appointed. Its reports, which drew wide attention at the time, have had a large share in determining the general course of health legislation in the ninety years that have since elapsed. The scientific basis of health legislation can only be determined if proper vital statistics be available. The Registration Act of 1838, under a developed form of which we still live and die, was in essence his work. If we search into the history of any department of the scientific treatment of the public health, we shall always ultimately work back either to Southwood Smith or to Chadwick and through them to Bentham.

AMONG the most important documents for which Chadwick was responsible was the "Parliamentary General Report on the Sanitary Conditions of the Labouring Population of Great Britain" (1842). It came to fruit in 1848 with the Public Health Act, which established a new governmental department, the "General Board of Health." The same year saw the passage of the Nuisances Removal and Diseases Prevention Act, by which summary action in such matters was rendered possible on the complaint of specially authorised local authorities. Just as the Board came into action there was an outbreak of cholera in England, of which 54,000 persons died. The statistics available under the new system made possible the deduction that the infection is conveyed by drinking-water and led to suitable precautions. This is one of the many instances in which the practice of prevention of a germ-borne disease preceded any knowledge of its organic cause, or, indeed, any direct knowledge of disease germs at all.

An important development was the practice of municipalities of appointing medical men to exercise a general survey of the health of the district. The first town in England to appoint a Medical Officer of Health was Liverpool. The City of London followed in 1848, when Sir John Simon took office. After Southwood Smith and Chadwick, Sir John Simon (1816-1904) was the foremost figure in the history of the public health of this country. He later became medical officer to the General Board of Health. The work of this Board—together with its medical officer—was taken over, for political and administrative reasons, by the Privy Council. The medical department of the Privy Council became in 1871 part of the Local Government Board, the medical functions of which were absorbed by the new Ministry of Health in 1917, which is thus linked through the long chain we have traced to the great physician of Leyden, Hermann Boerhaave. If there be one name that all Englishmen who are concerned with the treatment and prevention of disease should unite in honouring, it is that of this great, wise and far-seeing Dutch professor.



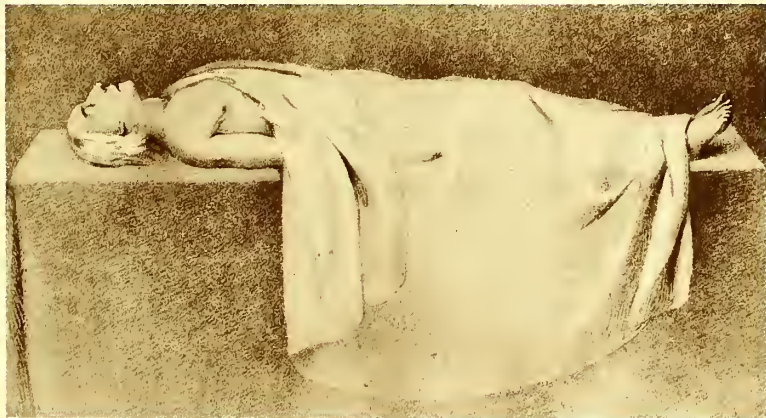
University College, London, about 1829, a centre of the teaching of medicine for many years.



Jenner, founder of the modern vaccination system.
(James Northcote, National Portrait Gallery, London.)



Edinburgh University, where the predominant medical school of Great Britain was established early in the 18th century.



Left, frontispiece to Southwood Smith's "Lecture Delivered over the Remains of Jeremy Bentham," 1832.
Right: A fine portrait (by Mary Black) of Messenger Monsey, a typical 18th century physician.



ILLUSTRATIONS OF A CENTURY OF MEDICAL EDUCATION AND ADVANCEMENT

The Chemist & Druggist
Special Issue,
June 27, 1931



Five
COPHACO
Pharmacies

Modern Efficiency
in Equatorial Regions



Above, exterior at Coquilhatville Below, left, shop entrance at Leopoldville Right, Negro assistant at Stanleyville



Left, corner of the shop at Likasi Right, luxuriously fitted shop at Albertville

The Chemist & Druggist
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Modern Pharmacies in the Belgian Congo



Exterior View of the Albertville Branch

WITH most of us, knowledge of the Congo is derived from our school-days, when we followed with feverish interest, not unmixed with envy, the adventures of the intrepid Stanley during his memorable Congo expedition. Our minds would then delight to dwell on vast, impenetrable, primeval forests, rank with decaying vegetation, and harbouring elephants, chimpanzees, lemurs, jackals—indeed, such an assortment of animals that one was tempted to believe that old Noah must have anchored his ark and released his adopted family somewhere in those parts. Into such a highly coloured picture the trim, modern Cophaco pharmacy refuses to fit; and we must get our knowledge of the progress of civilisation on the Belgian Congo a little more up to date. It should be stated that during the present Belgian king's reign the amelioration of the conditions of the natives (of whom the colony contains from 8,000,000 to 9,000,000) has steadily progressed hand in hand with commercial development.

The causes which called the Cophaco pharmacies into being were worthy ones, serving the furtherance of humanity; and in illustration article 4 of the statutes of the company may be quoted:—

“Faire et entreprendre la production, la fabrication et le commerce de tous produits chimiques et pharmaceutiques, de tous médicaments, de toutes denrées ou produits ou de tous appareils, instruments, récipients et accessoires employés en pharmacie, en médecine, dans les sciences pures et appliquées, dans les laboratoires d'analyses et de recherches, dans les arts, l'industrie, l'alimentation et l'économie domestique; à cet effet plus spécialement ouvrir en Afrique, principalement au Congo-Belge des pharmacies et dépôts, qui permettront aux administrations publiques, sociétés et particuliers, de se procurer sur place des produits de qualité garantie présentés dans des conditions d'emballage et de présentation permettant un emploi facile. Faire toutes recherches et études relatives aux médicaments spécialement utilisables pour le traitement des maladies tropicales.”

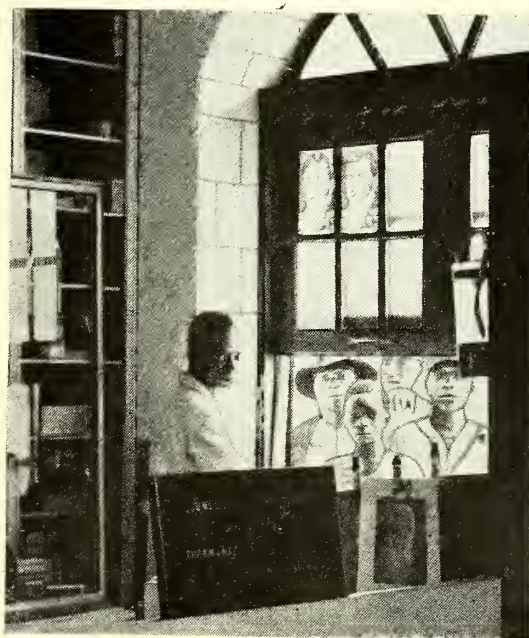
The first Cophaco pharmacy was opened in May 1927 in Elizabethville, the capital of the province of Katanga. From this dépôt any part of Katanga, even the frontier regions of Rhodesia, are supplied with pharmaceutical products within a few days. In September of the same year the charming bungalow-like

establishment was opened in Matadi. Matadi, by the way, is close to H. M. Stanley's old station at Vivi, and is the farthest point of the Congo reached by ocean-going shipping. In January 1928 the branch at Likasi-Panda was opened; this town is a mining centre of first importance. The Congo capital, Leopoldville, was the next to be favoured with a Cophaco pharmacy. Leopoldville has a white population of about 2,000, and the head offices of many important companies are established there. Port-Francqui, Kwango, Kasai and Sankura are some of the places which Cophaco can serve from this dépôt. In June 1928 a Cophaco pharmacy was opened at Coquilhatville, the chief town of the equatorial province. This was followed in April of the following year by the inauguration of Stanleyville branch, chief town of the eastern province.

The Boma and Albertville branches temporarily complete the list. They were both started in May 1929. Boma is the former administrative centre, and from here Mayumbe and Angola are supplied. Albertville, one of the principal ports of entry to the Congo, has a particularly bright future before it. It is rumoured that the Cie des Chemins de Fer des Grand Lacs will shortly settle there. The whole of Tanganika-Moero is supplied from this point, as well as the agricultural region on the southern side of Lake Tanganyika, a very promising area, where already many colonials and missions are established.

Moreover, the Albertville pharmacy supplies the English colony of Tanganyika, also Kivu and Ruanda Urundi. A further pharmacy is in course of construction at Uvira.

The pharmacies are staffed by ten qualified pharmacists, one assistant chemist, and a native *personnel* of a size varying with the importance of the branch. The white employees are lodged by the company, where possible in the building of the pharmacy, or temporarily in a rented house. The finishing of all products, chemical, pharmaceutical, or photographic, sold by Cophaco, is specially studied to meet the trying conditions of the tropics. The setting up in Leopoldville of an installation for special finishing is being considered. The company publishes a medical and scientific monthly, of which 3,000 copies are distributed gratis by the eight establishments; this paper contributes more than a little towards the health of the colony.



Negroes receiving their medicine at Matadi

HENRY VIII AND PHARMACY

I.—Royal Recipes for Plasters Ointments and Other Medicaments

By S. G. BLAXLAND STUBBS

Author of "Sixty Centuries of Health and Physick"

A BRILLIANT and versatile person, a scholar according to the standard of his time, and a lover of knowledge, Henry VIII seems to have concerned himself seriously and directly with the condition and practice of medical science through most of the thirty-eight years of his reign. He came to the throne in 1509 and immediately issued the first English Act which regulated the practice of medicine. The Act forbade "unlicenst folk" to practise, and laid down rules for examination and licence. Nine years later the great Linacre, one of Henry's earliest physicians, was granted a charter constituting the Royal College of Physicians, to-day the oldest-existing purely medical institution in Europe. The Act of 1509 had not been effectively enforced, and treatment by empirics, quacks and unlettered clergy continued, evils which are recited in Linacre's charter:—

"Before this period a great multitude of ignorant persons, of whom the greater part had no insight into physic, nor in any other kind of learning; some could not even read the letter on the book, so far forth, that common artificers, as smiths, weavers and women, boldly and accustomedly took upon them great cures, to the lugh displeasure of God, great infamy of the faculty, and the grievous hurt, damage and destruction of many of the King's liege people."

The body corporate thus founded had the sole privilege of admitting persons to practise as physicians inside an area covered by a seven-mile circle round the City of London. In addition to this charter and the Act of 1509, five other Acts of Parliament dealing with medicine and surgery were passed during Henry VIII's reign, in all of which he directly interested himself, including the most famous one of 1540, of which every schoolboy has heard, incorporating the Barber Surgeons' Company. In the last of Henry's medical statutes which permitted unlicensed persons to treat simple

diseases the apothecaries were recognised (even then, apparently, it was recognised that it was not practical politics to prohibit everything!).

Henry VIII had a number of accomplished personal physicians. Thomas Linacre has already been mentioned. In the Letters Patent constituting the Royal College of Physicians, the second name that appears is that of John Chambre, of Merton College, Oxford, who was also one of the Court physicians. Others were Sir Walter Butts, Dr. Walter Cromer and Dr. Augustin.

Dr. John Chambre (1470-1549), sometimes spelt Chambers or Chambyr, was a fellow of Merton College, Oxford, in 1492. Then he took holy orders and went to Italy to study medicine, graduating at Padua. Oxford made him M.D. in 1531, rather late in life.

He had been physician to Henry VII—no easy post—and was, apparently, Henry VIII's favourite medical attendant. At one time he held three livings, and was successively a prebendary, archdeacon and canon, ending up as Dean of St. Stephen's, Westminster.

Sir William Butts (d. 1545) was even more successful as a courtier than John Chambre. He was not only physician to Henry VIII, who paid him £100 a year, but from 1524 until his death was regularly at the Court and, in addition to a considerable practice among the nobility acted as a physician to two of the queens — Anne Boleyn and Jane Seymour—as well as to the Princess Mary, afterwards Queen Mary. Mary gave him a special livery and clothing for two servants and an apothecary, marks of definite favour. Wolsey and the Duke of Norfolk were also among his patients. Butts was M.D. of Cambridge. Little is known of Dr. Walter Cromer, or Cromire; he was a Fellow of the College of Physicians in 1530, and king's physician. Dr. Augustin was a Fellow in 1536 and physician to Welsley.

*A good Healing plaster devised by
the King's majestie*

*Take hygeyne of leade, romp an 3 1/2 redde leade
3 1/2 roalle unles, fangympe, Dymonide, rasine chere,
margantum an 3 1/2 finely powdered and well
washed w' white wyne, and rose water till they
be prepared, Dymonide deit sweet, and rasie sweet
and the sette of a roe, or a hewe, and boyle them
together on a fire w' the water of Cinqvisie
and resplid, w' more, then fangympe them and put them
to the oother aspresant, And so lett them boyle to
quethen w' a fire be almost at a bodie of a
plaster, and then put them to the water of Cinqvisie
afire w' the water 3 1/2 and make them of a
plaster,*

A GOODE HEALING PLASTER

"Devised by the Kinges majestie"

Others of the Royal plasters are described as "devised to resolve and mollify payne"; or as "a goode healing plaster"; one made at Westminster was "devised to ease the payne and swelling about the ancles." They are transcribed below.

A GOODE healing plaster devised by the Kinges matie.

TAKE lytherge of leade, ceruse an. 3iiss. redde leade 3ij. coralli ruber. sanguinis draconis, rasure eboris, margaritarum an. 3ij. fynely pouldered and well washed w^t white wyne, and rose water tyll they be prepared. Then take dere suett, and calfe suett and the fatte of a [?], or a henne, and boyle them to gether on a softe fyre w^t the water of Cinquefole and [?] maior, then strayne them and putt them to the oother aforesaide. And so lett them boyle to guethere untill they be almost at a bodie of a plaster, and then put therunto therebintyne washed afore w^t barley water 3ij. and make thereof a plaster.

A PLASTRE devised by the Kinges grace at westm[inster], to ease the payne and swelling about the ancles.

TAKE oyle of lillies washed w^t white wyne and water of chamomell flowres 3vj. redde corall combusted, and fynely pouldered 3ij. tutie preparat fynely pouldered 3ij. Boyle yor oyle w^t these poulders over a softe fyre evermore styrring it, then [?] putt thereto the muscillage of marsh mallows, [?] and psley of ech 3j. boyle them to guether till they be plaster lyke, then putt therto of white waxe 3j. And when it is well bodyed, take it from the fire, and in the cooling putt therto these poulders folowing of long wormes lytte [?], and well washed in white wyne of rose leaves fynely pouldered, chamomell flowers, and mellilote flowers an. [?] 3iiss. Et fiat emplastrum.

OF the other twenty-four plasters sixteen are unnamed, the remaining eight being made by the four doctors either singly or two or more in collaboration. One is made in different consistencies for summer and winter use. Following the thirty-five ordinary plasters are four "spasmadraps" or "dipped plasters," two of them being by Dr. Butts (Sir William Butts). Then we have fifty recipes for "Oyntments," two of which are transcribed below. Fourteen ointments are devised by the king and two white ointments are described as "made for the king."

AN OYNTMENT devised by the Kinges matie at Cawopde to drye excoriations and comfote the membre called the swete Oyntment.

TAKE oyle of roses well washed w^t warme white wyne viij. 3 redde leade 3iij. redde corall 3ij. margarites 3j. cornu unicoruu 3ij. Boyle all yor metalles and oyle to guether tyll it be vnguent lyke. Then put in these jukes folowing of eche one vnce, and a half besides the fire evermore styrring, tyll they be wrought all in, woode bynde, mallows, plantaigne, the tender leaves of the Aple tree, and solatre, and cast of all the pouldre of chamomell flowres, violet flowres, rose leaves, and ireos of ech dd vnce. et fiat.

A GRENE oyntment devised by the Kinges hieghnes to take awaye heate, and Indurations, and to resolve and ease payne.

TAKE the fatte of capons 3xij. well washed w^t the water of lymondes, then drawe the muscillage of thiese thinges folowing w^t rose water, and w^t the water of ["night shade" erased] lymondes. Take of quynseede, lynesede, psilii, et radiciis Althee and 3j. then take these metalles fynely pouldered and prepared w^t rose water, and water of lymondes of lytherge of golde 3iij. redde leade 3ij. redde corall 3j. Then boyle all these thinges to guether tyll it be vnguent lyke; then worke in these jukes folowing, of violet leaves, mallowe leaves, solatre hennebayne, chamomell flowres and rose buddes ana 3j. And last of all worke in white wyne and water of lymondes as much as shall suffice. Et fiat.

NEXT follow five "balmes" for "woundes, palseyes and agues," in which the king had no share. One, the only recipe in Latin in the whole MS., is truly entitled "Aqua mirabilis vel mater Balsami," for it contains a total of forty-nine ingredients or mixtures of ingredients. Henry or his physicians are rather to be commended for limiting such concoctions to one or two in a total of 114. The remainder of the MS. is concerned with twelve waters, lotions or decoctions and eight "cataplasmes or pultices," four of the first set being by the king and three of the second. We transcribe the following:

A CATAPLASME made vngtment lyke of the Kinges Maties devise made at westm[inster]

TAKE a quartre of mylke, a fyne manchett, a handfull of mallows, a handfull of rose leaves. Boyle these to guether tyll they be softe, then strayne them, and drawe the pulpe of them and putt therto the muscillage of psilii 3j. the yolke of ij. newe layd egges, the pouldre of long wormes well washed and dried 3ss. the pouldre of mellilote flowres, and chamomell flowres, of eche half an vnce, oyle of gardeyn lillies as muche as shall suffice. Et fiat.

A PULTRES devised by the Kinges Matie at hampton courte,

TAKE violet leaves, night shade, of eche ij. handfull, chamomell flowres one handfull, mallows ij. handfull, rose leaves one handfull, swete appuls iiij. a manchett, Boyle all these to guether in swete mylke tyll they be tendre, then strayne them and putt therto the muscillage of linsede, and of holyocke roote, and of figgues of eche ij. vnces and the yolke of ij. newe layd egges oyle of lillies, and oyle of swete . . .

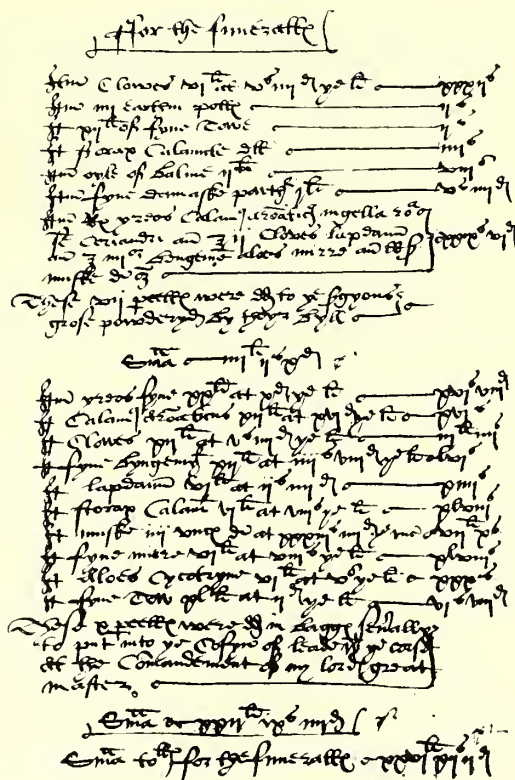
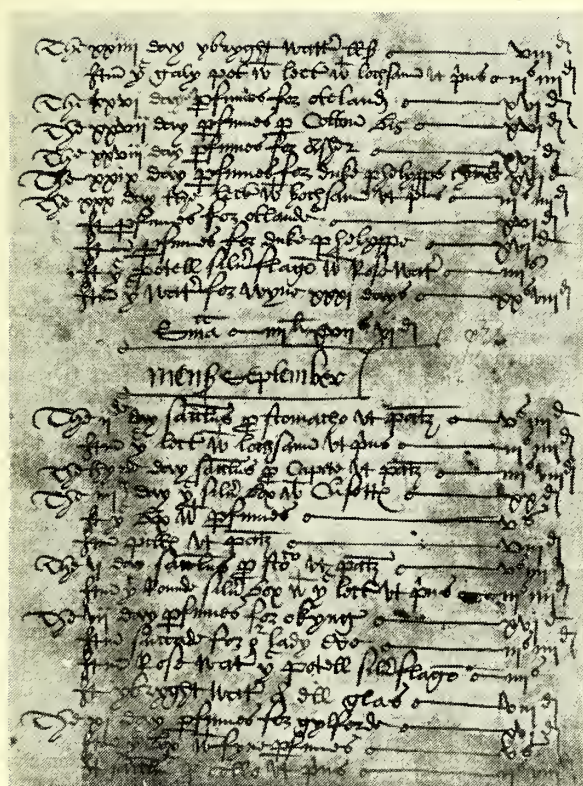
The use of lead and turpentine in the plasters is as sound straightforward practice as the casual inclusion of the fabulous unicorn in an ointment is curious. Presumably substitutes for the genuine unicorn horn were readily available. The other recipes, if a little lengthy, and requiring much wine and rose water, are clearly not without practical value. They were probably tested on the royal person.

2—Notes on Accounts Paid to the Royal Apothecaries in 1546 and 1547

By HOWARD BAYLES

THE exact extent of Henry the Eighth's medical knowledge will probably never be known. We know, however, on evidence which it is the chief purpose of this article to set forth, that in the last few months of his life he was ordered considerable quantities of medicine for internal and external use, and that there were at the same time three or four apothecaries in the royal household. From the year 1540 (and possibly earlier) till the King's death in 1547, Thomas Alsop, John de

Sodo and John Emmyngwey received quarterly salaries as apothecaries on the establishment; and on November 30, 1546, Patrick Reynolde was given office in the same capacity. The "Letters and Papers . . . of the Reign of Henry VIII" contain numerous references to the sums paid to the first three of these apothecaries; collating the entries, we find that Alsop (described as "gentleman poticary") and de Sodo (who was "poticary to the Lady Mary") each received £6 13s. 4d. a quarter, while Emmyngwey (a "yeoman



ACCOUNTS FOR MEDICINES PREPARED FOR HENRY VIII AND FOR FUNERAL SPICES

On the left, parts of the accounts for August and September 1546 (see transcription in text); right, the bill for spices used at the king's funeral, ten lots of which were put into the royal coffin

poticary") was paid 55s. 7½d. for the same period, together with an allowance of 22s. 6d. a year "for his livery coat." The King left in his will 100 "merkes" to Alsop, and a like sum to "Patrick" — (presumably Reynolde), but nothing, apparently, to either of the other apothecaries.

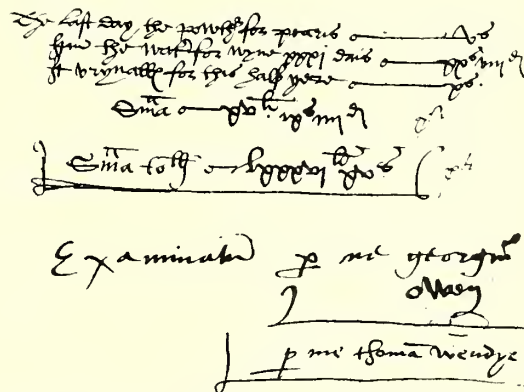
In addition to receiving a salary, Alsop kept an account of medicines supplied to the royal household, and in at least one instance his bill was paid without much delay, though in two instalments. Among the documents preserved in the Public Record Office is a series of five such accounts, which for the purpose of payment were treated as one. They are clearly written in a calligraphy of the type that the late Sir Edward Maunde Thompson, in his "Introduction to Greek and Latin Palaeography," calls a Chancery or legal hand as distinguished from the narrower formation of letters known as a court hand. The two receipts on the back of the last of the eighteen folios indicate that Alsop did not, and probably could not, command the regular handwriting of the accounts; as a gentleman apothecary, he may well have regarded the possession of a beautiful "hand" as only worthy of persons in a lower station of life. Shakespeare makes Hamlet say:

"I once did hold it, as our statists do,
A baseness to write fair, and labour'd much
How to forget that learning . . ."

THE first of these bills, relating to medicines for the King himself, extends to twelve folios, the last of which is about half-filled; the total of the items amounts to £86 15s., and there is an additional sum of 24s. for six items supplied in the month of February 1547. King Henry died on January 28 of that year. Each of the sheets of this account measures approximately 3½ inches by 6 inches, and most of them are filled on

both sides. Then comes a longer sheet (9½ inches by 5½ inches), headed "For the funeralles"—the plural form of the word was then used, as it still is in French. The next and longest sheet of paper is headed "For my Lady Marye's grace." A shorter bill for "Mr. Hylle the Synger," follows; and lastly, covering both sides of one sheet and part of the recto of another, there is an account of goods supplied to "My Lady Margaret Douglas" and the addition "of all the particulars within this booke," namely, £127 3s. 2d.

Although these bills are too lengthy for extended quotation, I may perhaps transcribe the items for the first month, August 1546. Most of the contractions have been disregarded in favour of the words they represent; it would be impossible to convey the difference, for example, between "per" and "pro,"



ENDING OF BILL PASSED BY TWO OFFICIALS

which are written as two different forms of the letter "p," without having special type cast. Many readers will possibly find it amusing to identify some of the more uncommon items. The August account (omitting a few repetitive entries) reads:—

The first day the galy pot with the lectuary ut prius ijs viiij
Item the box with perfumes ut prius .. ijs vjd
The iijde day aqua eufragie the vyoll ut prius .. iijjd
The vth day a galy pot with the lectuary ut pro rege
gvyyn to the queen's grace .. ijs iijjd
The viij day the potell silver flagon with rose water .. iijjs
Item a glass with ybryght water .. iijjd
Item uryndalles sent to Hampton Court .. ijs
The xth day perfumes for Hampton Court .. xvj
Item ybryght water a vyoll .. iijjd
The xij day the lectuary with lochsanum ut prius .. iijjs iijjd
Item sacculus pro maxilla ut prius .. ijs viiij
[13th] Item a great saccule pro stomacho ut patet .. vs iijjd
The xvj day frontale ex diversis ut patet .. ijs viiij
Item a box with fyne perfumes for the
Admyrall of Fraunce .. vs
The xix day another box with fyne perfumes .. vs
The xx day pylls of Rasis ut prius .. viiij
Item perfumes for Otlande .. xvj
Item ij ellys of lynyn clothe to make bagges
to put in cumfettes at xd the ell .. xxd
The xxiiij day Bartyhew eve succade .. iijjs iijjd
The xxiiij day ybryght water lb. ss .. viiij
The xxvij day perfumes per Cotton bis .. xvj
The xxix day perfumes for Duke Philypp's chamber
Item the water for wyne xxij days .. xxs viiij
Summa iijli. xvij. vjd.

THE increased length of the bills for subsequent months is probably related to a deterioration in King Henry's health. From occasional allusions in the "Letters and Papers" it may be gathered that, for several years before his death, Henry the Eighth had trouble with a fistula in the leg. We read, for instance, that in 1541 the opening suddenly closed, to his great alarm, and that the same thing had happened five or six years previously. He had about that time at least one attack of tertian fever; he ate and drank excessively, and grew so stout that he found walking difficult. While the August items occupy (without the addition) thirty-eight lines, those for September extend to eighty-seven lines, those for December to 165, and those for January 1547, the last month of the illness, to 125. It will be seen from the transcription of the entries for August that "repeats" were fairly numerous; it will therefore suffice to select from the remainder of the account some of the most characteristic particulars.

In September these included ybryght water a dll glass 8d.; spermaceti dd to my Lord Harbarde 12d.; dyvers spyces etc. dd to the coke pro rege 20d.; gum animii 12d.; the julep with vino granatorum ut patet 2s. 8d.; whyt lozenges a box 3s. 4d.; whyt manus Christi a box 5s. 4d.; lycorys styckys 12d.; the fomentacion and ij sponges to the syrgions 4s. 8d.; lozenges ex aromatico rosarum lb. ss. 3s. 4d.; the glass with locio pro ore ut prius 20d.; a box with penettes 12d.; pro diversis for Thomas the hunte at Gylforde jussu Regis ut patet 12s.; aq. caprifolii bis 8d.; cons. barberis for my Lord Harbarde 12d.; pilles de rubbarbo 8d.; wodbynde water 8d.; a glyster ut patet 3s. 4d. As in each of the other months, the last entry is "the water for wine" at the rate of 8d. a day.

The salient features in October are a frontall in sendall ut patet 2s. 4d.; a coffyn with pulles menthe 4d.; manus Christi drege lb. ss. ut patet 3s. 4d.; sacculus No. ij ad lavandum pedes 2s.; the powder for peares 5s.; lyquors and sugar candy for the Kyng's hounds 2s.; perfumes where the King dynyd 16d.; sugar candy and mell rosarum for the hawkes 8d.; for the hawkes rubarbe and mummea 20d.; aqua maiorane cum musco etc. ut patet 2s. 4d.; almondes betyn for oyle ad labia 4d.; pilles of masticke and aqua caprifolii 12d.; ij new sponges 16d.

In November we find for my Lord Harbarde manna 3ss. 7s. 6d.; dyvers medycyns for hawkes of ten

sundry sortes in silver boxis jussu Regis 15s. 6d.; a jarre glas 4d.; for the bayn bagges with herbis sponges muske cyvet ut patet 5s. 8d.; sacculus pro stomacho in red sarcenet ut prius 4s. 8d.; the hole receipt of pulles holandie made for the Kyng's use 2s. 8d.; the first water to washe hawkes' meate 4d.; a sawce ut patet pro Rege 12d.; figges at divers tymys 4d.; animii and storax calamite 8d.; pilles of masticke No. ij 8d.; unguentum pro emoroyd ut patet 16d.

DECEMBER, the month comprising, as we have seen, more entries than any of the others, shows a higher proportion of medicines than its predecessors. Among other things we have fyne lignum gwaycum lb. xvj occupyd at divers tymys ut patet 9s. 4d.; ij. Flaunders pottes with covers for the same 12d.; rose water and bengemen 16d.; gum dragagant and sugar candy for the hawkes 8d.; skarlet for iij patrons whereof ij were bastyd with sponges and the iij with woll 3s. 2d.; a potell botell cum lixivia 8d.; olium salitum . . . 16d.; provydyd . . . a gowrd with turbentyne 8 li. 5s. 4d.; ij stavys dressyd with musk ambr etc. 26s. 8d.; an infusion lax with rubarb[e?] etc. ut patet 5s.; aceti albi a potell botell 12d.; ij suppositors 4d.; a glass with aqua ordeï bis fact 16d.; aqua ordeï cum zacc^o a quart glas 8d. The total cost of the drugs and other materials for this month was £25 os. 4d.; one item was not priced.

In January, the last month of the illness, we find alacras a quart glas botell ut patet 2s. 8d.; a quart glas with aqua pro vino made ut patet 8d.; for the Kyng's byrde a potell of beyonde sea wheat 5s. 4d.; ij pilles of pionea ut patet 8d.; decoctio ex guaico etc. ut patet a quart 12d.; aqua muscata cum decoctione nigelle ut patet 12d.; nigella contusa in panno ligato 4d.; a plaster of poliarchion pro stomacho 4s. 8d.; a p'paratyve ex diversis ut patet 20d.; sem. cartami mundat. 3ss. 8d.; sirupus de bizanciis lb. ss. 15d.; cumfettes of anisy vj li. and as many of swet fennell sede jussu Magistri Owen 24s.; a lect past . . . confectio pionie et actuarii ut patet 7s. 6d.; ij new fyne sponges 2s.

THE bill "For the funeralles" consists of a list of spices, seven lots of which were "dd to the syrgions gross powderyd by theyr byll," and ten lots were delivered "in bagges severally to put into the cofyn of leade with the corse at the commandement of my lord great master." The spices include cloves, oil of balme, nigella, coriander, "bengemen," aloes, "mirre," "muske" (4½ oz. at 33s. 4d.=£7 10s.), and tow (40 lb. at 2d.=6s. 8d.). The prices of the seven lots and those of the ten lots are added separately; the bill amounts to £26 12s. 2d.

The entries "For my Lady Marye's grace" commence on September 3, 1546, and end on February 9, 1547. They include a pot with greyn gynger venys 5s.; a box with diacitonit^{on} cum specibus 16d.; nigella in sindone ligata 8d.; eneuma ut prius et sentary 20d.; perfumes at ij tymys 2s. 8d. The total is £4 5s.

FEW of these words and phrases present any real difficulty. The "ut patet" may be taken as implying that the prescription or formula was a new one, and that it was duly copied into a book or was otherwise "at all times available for inspection." A sacculus was a small bag containing confused simples and other medicaments for local application. A penette was a stick or other small piece of barley-sugar. A coffyn (now spelt "coffin") was a three-cornered paper bag or twist used to hold comfits. (The term has still a technical use.) Manus Christi was made by boiling sugar with an aromatic water. A drege was a comfit containing any drug or spice, and is said to have had hard-boiled yolk of egg as one of its ingredients. The total of these bills was paid in two instalments, of £100 and £27 3s. 2d. respectively, on May 28 and June 28 1547. The receipt for the first item is signed in Latin and the other in English.

A Survey of the Cultivation Production and Distribution of Citrus Products in California

THE CALIFORNIAN CITRUS INDUSTRY

THE Citrus Fruit Industry in California is, to a very large extent, dominated by an organisation known as the California Fruit Growers' Exchange. This "Exchange," which commenced on a comparatively small scale, now numbers some 12,500 orange and lemon growers, owning together about 90 per cent. of the lemon and 75 per cent. of the orange groves in California, and is the largest co-operative organisation of its kind. These growers market their fresh fruit under the widely-known "Sunkist" brand. A few words as to the ramifications of this modern co-operative scheme will give some idea of its work on behalf of its members. At its headquarters in Los Angeles the "Exchange" handles the selling and advertising campaigns of its fresh fruit. Its laboratories and scientific departments, which are continually engaged in studying the industry from every point of view, assist its members by advice on all the latest methods of agriculture, fertilisation, eradication of pests, irrigation, and development of citrus products. The members of this "Exchange" co-operatively own and operate two products plants known as "The Exchange Orange Products Company" at Ontario, California, and "Exchange Lemon Products Company" at Corona. These plants deal with fruit which, on account of being undersized or having some external blemish, is unsuitable for boxing and marketing under the "Sunkist" mark, and is processed to yield a number of citrus products, among which are citric acid, orange oil, lemon oil, concentrated and "burred" orange and lemon juices, and pectin.

Research and Development Laboratories

Each Products Company maintains a fully equipped laboratory, adequately staffed with chemists, bacteriologists, and engineers, which control the development and manufacture of these by-products and which work in the closest co-operation with each other and with the Research Department maintained by the Central Exchange Organisation. The trained *personnel*, with the modern equipment, nearly all of which has been specially designed for its purpose (as there is little standard equipment which can be used in this pioneer work), make possible the study of its problems in a thoroughly scientific and practical manner. As these "products" plants are not privately owned, they are able to distribute all over the world products derived from oranges and lemons grown by its own members to which no manufacturing profits have to be added. All operations are computed on a strictly cost basis and their only desire is to return to the fruit growers a fair and reasonable financial profit for their fruit.

When the fruit is ready for picking, the "Exchange" send out expert pickers so that the individual grower runs no risk of damage to his trees through inexperienced labour. These pickers put the fruit loosely in boxes, which are collected and taken to the district packing house. These packing houses—there are over 200 distributed throughout Southern California—select, size and pack the fruit by the most modern grading and boxing machinery. The boxes are loaded into cars, which contain 462 boxes of oranges or 348 boxes of lemons and are dispatched to all parts of the United States and Canada. These cars carry ice bunkers at each end capable of holding $2\frac{1}{2}$ tons of ice, which is renewed at various points en route, keeping the tem-

perature at about 50° F. All shipments intended for the United Kingdom, Continental and other foreign ports are sent to the port of Los Angeles by motor truck; these trucks are permitted to deliver the fruit alongside the steamer, from which point it is immediately hoisted on board and placed in refrigerating rooms, thus ensuring the delivery of the fruit at foreign ports in perfect condition. The central organisation in Los Angeles directs the sale of the fruit, and advises the packing houses when and where to ship their fruit. By this central direction of selling and distributing, all risk of overloading any particular market is avoided and the best possible price obtained. During an average season approximately 13,000 cars of lemons and 40,000 cars of oranges are distributed and sold, giving an annual return to Exchange growers for fresh fruit alone of about a hundred million dollars (£20,000,000).

Lemons are picked all the year round in California, while the oranges have two distinct crops—the earliest variety known as the "Navel," which is picked and marketed in the months of December to April, and the later variety, known as the "Valencia," which is available from May onwards through to the autumn, thus providing the fruit market in the States with fresh Californian oranges every week in the year.

Ideal Conditions in California

The cultural conditions in California are ideal—dry, invigorating air and abundant sunshine, together with modern methods combining to give the fruit a flavour which is not surpassed. The risk of frosts in California during the winter months is comparatively small, and it is only on comparatively few nights during December and January that careful supervision is exerted. Night riders on motor-cycles scour the country reading the thermometers which are exposed in the orchards, and when a reading of 30° F. is indicated (say, before midnight) the central office is communicated with by telephone and the night watchman telephones the growers to light their orchard heaters and so fend off the threatened danger. These "orchard heaters" are contrivances containing crude petroleum oil fitted with vertical chimneys—one to every two trees—which can be lit, to protect a ten-acre orchard in about three-quarters of an hour, and are capable of raising the temperature some 5° to 7° F. Approximately 75 per cent. of the orchards are protected with these heaters. Weather reports, warning and advice are sent out by radio to the growers each evening during this anxious period of the year, so that even in the outlying districts the grower is kept in close touch with the organisation of which his membership makes him a part-owner. The watering is almost entirely done by irrigation, as from May till late October one is assured of day after day of brilliant sunshine with no rain.

Having given but a brief synopsis of the working of this modern and efficient co-operative organisation, let us turn to some of the by-products handled by the plants at Ontario and Corona.

It is some years now since a sweet orange oil from California was first offered on the London market, but not until the end of 1926 did a lemon oil make its appearance from the same source. Up to this time Messina had practically a monopoly in the lemon oil market in Europe, although on sweet orange oil other sources of supply, such as the West Indian and Spanish,

had to some extent been competitors, and now South Africa and Japan are entering the lists.

Owing to the ideal geographical situation of the orange and lemon groves, protected from the East by the high mountains and the foothills of the Sierra Nevada and Sierra Madre ranges, the natural fruit flavour is much in evidence in the Californian fruit, and this in its turn is imparted to the oils, with the result that on their introduction into this country they met with immediate favour in those manufacturing industries desirous of reproducing the "true to nature" flavour. These by-products plants are manufacturing these oils every month in the year. In Europe, the oil of sweet orange and distilled lemon oil are the only oils that are marketed, although it is possible that in the near future grapefruit oil may be added to the list. The grapefruit industry is rapidly increasing in California, and it is estimated that this year some 10,000 to 12,000 acres of trees of bearing age will be under cultivation. Whilst certain quantities of the juice are at present being shipped, the small quantity of oil available finds a ready outlet in the United States.

Competition with Sicily

One may reasonably ask what effect this comparatively recent competitor is likely to have upon the prices of these commodities which until recent years have been almost entirely in the hands of the Sicilians, and, judging from the price now prevailing for these oils, the Californian competition is having a pronounced effect in the direction of lower prices. This can readily be appreciated when it is remembered that previously the United States were the largest consumers of these oils, and that now the "Exchange" plants are producing more oil of orange than any other single producing unit in the world, they are in position to supply the entire United States requirements for orange oil. Their influence will also be felt in the production of lemon oil, although not so pronounced as with orange oil.

One of the most interesting of these citrus by-products is the pure concentrated orange juice which, during the last few years, has been shipped to Europe and the East in increasingly large quantities under the trade mark "Califorange." Mention should also be made

of the similarly concentrated lemon juice marketed as "Calemona."

These concentrated juices are produced in specially designed acid-resisting equipment by a special process, which involves the rapid concentration of the freshly expressed juices under a high vacuum so that the temperature is seldom higher than 98°-99° F., or about the temperature of the human body. The high quality and excellent keeping properties, the fact that they are available at all times of the year, together with saving in storage space and convenience in handling, has resulted in these pure concentrated juices being in great demand for the manufacture of beverages. Furthermore, carefully conducted feeding tests by independent scientists and by a number of industrial research chemists have all confirmed that the special process of concentration does not impair the vitamin potency of the fresh juice. On this account, quite apart from that used in the making of fruit drinks, large quantities of "Califorange" concentrated orange juice are used annually as a source of vitamins, and it has been certified by the Mercantile Marine Department of the Board of Trade as an official antiscorbutic for use on board ship.

Another product which has come to the front in recent years is the standardised citrus pectin powder, also sold under the "Exchange" trade mark. This is characterised by its uniformly high jelly strength, its entire absence of taste or colour, and the brilliancy of its jellies. The grade of "Exchange" pectin usually sold for jam and jelly making has about twenty times the "setting" value of an equal weight of the ordinary liquid pectin, and has the additional great advantage of possessing excellent keeping properties, even in partially used containers. For special purposes an even more highly concentrated pectin is available.

Thus we see that this great industry, organised primarily for the production of fresh oranges and lemons, has solved its own problem of surplus production by turning that surplus into products of the very highest grade, and has become a large producer of citric acid, orange juice and lemon juice, and unquestionably the largest single producer of orange oil, lemon oil and citrus pectin in the world to-day.



LEFT: JAR OF DELFT WARE, EIGHTEENTH CENTURY, IN THE LABORATORY OF PHARMACY, THE UNIVERSITY OF UTRECHT. RIGHT: HISPANO-MORESQUE PHARMACY POTS, EARLY FIFTEENTH CENTURY, RECENTLY ACQUIRED BY THE VICTORIA AND ALBERT MUSEUM UNDER THE WILL OF THE LATE SIR OTTO BEIT

(Courtesy of the Victoria and Albert Museum)



1.—Orchard heaters placed in an orange grove to prevent effects of night frost



2.—Picker placing the fruit loosely in boxes



3.—An orange grove with snow-capped mountain behind

SCENES ON CITRUS PLANTATIONS IN CALIFORNIA



Above, Exchange Lemon Products Co., Corona
Left, A packing house of the Exchange Company
Bottom, Exchange Orange Products, Ontario



PLANTS OF THE CALIFORNIAN CITRUS INDUSTRY

The Chemist & Druggist
Special Issue,
June 27, 1931

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

28 Essex Street, W.C.2, June 24

A STEADY flow of business of limited size continues in the pharmaceutical chemicals market and the general tone is maintained. Prices quoted are unohanged, except that there is a new scale for methyl salicylate; values are occasionally discounted for business of importance. There has been a little more interest in citric and tartaric acids and cream of tartar. Although business in crude drugs is still on the quiet side there is a little more doing and the general feeling is certainly more cheerful. Prices at their present low levels are being well maintained and some recoveries are not unlikely. In essential oils there has been a further improvement in conditions, with more business being done, and values of a number of the leading products moving up. Japanese dementholised peppermint is again dearer. Quotations for anise (Star), bergamot, citronella, lemon and orange oils have been marked up and the tone is altogether better, with more confidence shown. Rose is much cheaper for this year's oil. Conditions in the industrial chemicals market are steady but mostly rather quiet, with quoted prices generally unchanged, but with a good deal of price-cutting in evidence. Coal-tar products, with one or two exceptions, such as cresylic acid and benzol, remain rather quiet. There has been a little more business moving in fixed oils, with linseed oil showing a good advance.

Firmer		Easier
Anise (star) oil	Menthol	Gum acacia
Bergamot oil	Orange oil	(bleached)
Citronella oil	Peppermint oil	Methyl salicylate
Lemon oil	(Japanese)	(B.P.)
Linseed oil		Rose Oil

Pharmaceutical Chemicals, etc.

WITH a moderate volume of business moving the markets continue fairly steady, although quoted prices are being discounted in some instances. A little more interest is being shown in citric and tartaric acids and cream of tartar but values remain at recent low levels. Methyl salicylate prices have been revised.

ASPIRIN is a steady market, with controlled prices maintained; business is normal for the time of year. Home trade: ten cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8½d.; 28 lb., 2s. 9d.; 14 lb., 2s. 10d.; 7 lb., 3s.; 1 lb., 3s. 4d. per lb. Export to Colonies and British Possessions: ten cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8½d. per lb. f.o.b.; less than one cwt., 2s. 9d. per lb., ex works.

BENZOIC ACID (B.P.) continues in fair request, with business of importance at keen prices: quantities, ex works, 1s. 9½d.; spot parcels, 1s. 10d. to 1s. 10½d. per lb., ex store.

BROMIDES.—The keen competition for business, which is rather limited in volume, is still the feature of this market, makers and dealers quoting at about level rates: ammonium, 1s. 7d. to 1s. 7½d.; potassium, B.P. crystals, 1s. 3½d.; granular, 1s. 3½d.; sodium, B.P., 1s. 6½d., and slightly less for bulk quantities.

CAFFEINE meets with occasional business at keen prices: pure alkaloid, 7s. to 7s. 3d. per lb.; citrate, 5s. 4d. to 5s. 8d. per lb. as to quantity.

CALCIUM LACTATE is steady and a fair business continues to be transacted: spot, 1s. 1½d. to 1s. 3d. per lb., as to quantity.

CHLORAL HYDRATE.—Home makers' prices are very steady; business fair: duty-paid crystals, 2s. 11½d. to 3s. 1½d. per lb. as to quantity and packing; foreign, on spot, 3s. 3d. per lb.

CITRIC ACID (B.P. crystals).—The slight improvement in business reported last week is being maintained, but cheap

offers are keeping the market at low levels: foreign material on spot is about 11d. per lb., less 5 per cent. for fair-sized parcels. British makers quote 11½d. per lb., less 5 per cent. discount.

CREAM OF TARTAR is inclined to be rather steadier this week and there has been a little more interest in the market: foreign, 79s. to 79s. 6d. per cwt., less 2½ per cent. British makers quote 99 to 100 per cent. material at 81s. per cwt., less 2½ per cent. discount.

EPHEDRINE HYDROCHLORIDE.—There is keen competition for business in this product, with quantities at very low rates: spot, 8s. to 8s. 6d.; pure, 10s. 6d. to 11s. per oz. as to quantity.

HEXAMINE.—While a fair business is being done, the market is being cut very fine: free-running crystals, spot, from 1s. 9½d. to 1s. 10½d. per lb., and less for large contracts.

METHYL SALICYLATE (B.P.).—A new scale of prices is recorded this week, making the smaller parcels slightly cheaper: one ton and over, 1s. 3d.; 5 cwt., 1s. 3½d.; one cwt., 1s. 3½d.; less than one cwt., 1s. 4d. per lb.

METHYL SULPHONAL is meeting with a poor demand and quoted prices are easy: two cwt., 12s. 7d.; one cwt., 13s.; 56 lb., 13s. 5d.; small parcels, 13s. 10d. per lb.

METOL.—A fair demand continues, with quoted prices about unchanged: one cwt., 6s. 3d.; 56 lb., 6s. 4½d.; 28 lb., 6s. 6d.; less, 6s. 9d. per lb., carriage paid.

MILK SUGAR.—Some sources are offering at slightly under the quoted rates: one ton, 44s.; ten cwt., 45s.; two cwt., 46s. per cwt., in two-cwt. cases.

PARAFORMALDEHYDE is showing some activity, but keen prices are necessary to secure bulk orders: 100 per cent. powder, quantities in kegs, 1s. 4d.; smaller parcels up to 1s. 5½d. per lb.

PARALDEHYDE is on the quiet side, with quoted prices steady: quantities in demijohns, 10½d.; drums, 11½d.; winchesters, 1s. per lb.

PHENACETIN.—The quantity of cheaper parcels on the market is not likely to disturb Convention rates; business has been fair: crystals, ten cwt., 3s. 8d.; five cwt., 3s. 9d.; two cwt., 3s. 9½d., and less, 3s. 10½d. per lb., with powder 1½d. per lb. extra.

PHENAZONE.—A fair amount of business is reported and the usual occasional cheap seller is noted: crystals, ten cwt., 6s. 11d.; five cwt., 7s. 0½d.; two cwt., 7s. 2d.; and less, 7s. 3½d. per lb., with powder 1½d. per lb. extra.

SALICYLIC ACID (B.P.) is firm as quoted by home makers: one ton, 1s. 5d.; ten cwt., 1s. 5½d.; five cwt., 1s. 6d.; one cwt., 1s. 6½d.; small parcels up to 2s. per lb.

SALOL continues about unchanged, with not very much interest in the market: crystals, two cwt., 3s. 7½d.; one cwt., 3s. 9d.; 56 lb., 3s. 9½d.; smaller parcels, 3s. 10½d. per lb.; powder, 1½d. per lb. extra.

SODIUM BENZOATE (B.P.) is being called for in good volume and there is competition for the business: one ton, 1s. 6½d. up to 1s. 7½d. per lb. for small parcels.

SODIUM SALICYLATE (B.P.).—Convention prices continue steady, with home makers doing most of the business. Home trade: powder, two tons, 1s. 10d.; one ton, 1s. 10½d.; ten cwt., 1s. 11d.; five cwt., 1s. 11½d.; one cwt., 2s.; 28 lb., 2s. 1d.; 14 lb., 2s. 3d.; 7 lb., 2s. 4d.; 1 lb., 2s. 5d. per lb., with crystals 1d. per lb. extra.

SULPHONAL is barely steady as quoted, with the market dull: crystals, 10s. 1d. to 11s. 2d. per lb. as to quantity, with powder 1½d. extra.

TARTARIC ACID (B.P. crystals) seems to have been moving rather better this week, but the market remains at low figures: foreign material, 10½d. to 10¾d. per lb., less 5 per cent. ex wharf. British makers quote 11½d. per lb., less 5 per cent. discount.

Crude Drugs, etc.

AGAR-AGAR.—The market is steady but quiet: Kobe No. 1, 3s. 11d. spot; 3s. 10½d. c.i.f.; No. 2. 3s. 8d. spot, 3s. 7d. c.i.f.; Yokohama, No. 1, 3s. 8d. spot, and 3s. 6½d. c.i.f.

ANTIMONY.—Prices are about unchanged with the market dull: Chinese crude, spot, £19; shipment, £12 15s. c.i.f.; Chinese white oxide, spot, £25 10s.; shipment, £18 10s. c.i.f.

CLOVES.—The market has been mostly quiet: spot values are about unchanged, while the shipment positions are a point easier: Zanzibar, spot, 9d.; July, sold at 7d.; August-October, 6½d.; Madagascar, spot, 8½d.; July, 7d. sellers, c.i.f.

The landings of Zanzibar in London during the week ended June 20 were *nil* and the deliveries 140, leaving a stock of 589, against 1,353 in 1930 and 1,715 bales in 1929. From January 1 to date, landings of Zanzibar have been 871, against 5,845 in 1930, and the deliveries 1,293, against 4,489 in 1930. Landings of Madagascar for the week ended June 20 were *nil* and the deliveries 87, leaving a stock of 1,412, against 2,817 in 1930 and 555 bales in 1929. Landings of Madagascar this year to date have been 2,085, against 4,199 in 1930, and the deliveries 1,579, against 1,395 in 1930.

COCONUT (DESICCATED) is steadier on a slightly lower level: spot, fine and medium, 18s. 6d.; shipment, July-August, 16s. 3d. c.i.f.

COD-LIVER OIL.—The market continues steady and a fair volume of orders have been placed for the U.K. and Far East. The fishing season has now finished, and has been a failure. Quotations for finest non-freezing steam-refined Lofoten oil, 112s to 113s. per barrel, c.i.f.; spot, minimum five-barrel lots, 115s. per barrel.

GELATIN has been quiet again, and prices are quoted as unchanged: gold leaf, 2s. 6d.; silver leaf, 1s. 8d.; bronze leaf, 1s. 5d. per lb., in cwt. cases.

GINGER is about level on the week, with the market dull: West African, spot, 22s.; for arrival sellers, 21s. c.i.f.

GUM ACACIA.—Business has been limited with prices unchanged, except for bleached, which is easier on spot; Kordofan, cleaned, 40s. to 42s. 6d.; bleached, 105s. to 110s. spot.

IPCACUANHA.—There has been more interest in this market, and business of fair size has been done at the slightly lower figures now mentioned: Matto Grosso, spot, 6s. 4½d. to 6s. 6d.; Minas, 5s. 9d. to 6s.

MENTHOL.—The market shows some life and is much steadier, with K/S brands fully 13s. 6d. on spot; shipment, July-August, 12s. 9d., c.i.f.

MERCURY.—The market continues steady at £16 15s. per bottle, f.o.b.; spot is about £17 per bottle for fair quantities.

PEPPER.—After a rather quiet week of business the market closes about unchanged and fairly steady: Lampong, spot, 5½d.; May-June, sellers, 5½d.; August-October, 5½d. c.i.f.; Tellicherry, 5½d. spot; Aleppy, 5½d. spot; June-July, 49s., c.i.f.; White Muntok, spot, 8½d.; May-July, 7½d. sellers; August-October, 7½d., c.i.f.

PIMENTO is quiet on spot and slightly easier at 21½d.; shipment, sellers at 23s., c.i.f.

RUBBER.—The market has shown more life and closes with a better tone at the advance: No. 1 standard ribbed smoked sheet, sellers, spot, 3½d.; June, 3½d.; July-September, 3½d.; October-December, 3½d. U.K. stocks, 137,341 tons, against 106,242 tons a year ago. World stocks at May 31, 537,125 tons, against 400,422 tons a year ago.

SAFFRON.—A fair business continues, with prices steadily maintained: prime B.P., 42s. 6d. to 43s.; extra B.P., 39s. 6d. to 40s.; super B.P., 37s. 6d. to 38s. per lb.

SENEGA.—There has been little moving here, with the market unchanged: spot, 2s. 3d.; shipment, barely 2s., c.i.f.

SENNA PODS.—The market is steady and about unchanged, with a scarcity of medium Alexandrian pods reported: spot, Alexandrian, finest selected, 5s. 6d.; seconds, 3s. 6d.; mediums, 1s. 9d. to 2s.; ordinary manufacturing, 4½d. to 5d. per lb. as to quantity.

SHELLAC.—The market shows some recovery and is now very steady; business has been on a better scale: TN standard orange, 72s. 6d.; fine orange, 80s. to 150s.; pure button, 87s. 6d. spot; for delivery, TN, August, sold, 66s. 6d.; October, 63s.; December, 70s.; for arrival, TN, sellers June-July, 65s. c.i.f.

Essential Oils, etc.

A TURN to rather better conditions can be recorded in these markets. There is a good deal more interest, and the general tone is much healthier. Business, although by no means active, is certainly better. Anise (star), bergamot, citronella, lemon and orange oils are firmer, and further appreciations are anticipated. Japanese peppermint is now firm, and a further advance in values is recorded. The only reduction is in rose, which is much cheaper.

ANISE (STAR) "Red Ship."—Prices have been marked up, and the market, although rather quiet, is steady: in leads, 2s. 2d.; in drums, 1s. 10½d.; in tins, 2s. spot.

BERGAMOT.—At the moment the market is advancing. The latest shipment quotation for 38 to 40 per cent. was at 7s. per lb., c.i.f. There is plenty of room here for a considerable and sharp recovery in values, and the market closes with that tendency. Spot values are anything in the region of the shipment figure mentioned above.

CAJUPUT is now steady as quoted on spot from 2s. 2d. to 2s. 3d. per lb.; shipment, from 1s. 7d. c.i.f.

CITRONELLA.—The market is dearer and firm with business moving on a good scale: Java, spot, 2s. 3d. to 2s. 4d.; c.i.f., 2s. 1d.; Ceylon, spot, 1s. 9d.; c.i.f., 1s. 5d. per lb.

GERANIUM.—The market is about unchanged on quotation, but rather steadier: Bourbon, spot, 15s. 3d.; shipment, 14s. 3d.; African, spot, 16s. 9d.; shipment, 15s. 9d.

LAVENDER is keeping fairly steady, but the market remains quiet: French, 38 to 40 per cent., spot, 8s. 6d. to 8s. 9d. per lb.; shipment, 8s. 5d. c.i.f.; 36 to 38 per cent., 8s. to 8s. 3d. per lb., spot.

LEMON.—This market has been of general interest this week, and conditions are firm at the advances now recorded; Sicilian hand-pressed, with supplies limited, spot, 3s. 4d. to 3s. 5d.; shipment, 3s. 3d. to 3s. 4d. c.i.f.; machine-made, spot, 2s. 9d. to 2s. 10d.; forward, from 2s. 6d. to 2s. 7d. per lb. c.i.f.

LIME continues very short on spot with genuine distilled fully 40s.; hand-pressed, from 50s. spot.

ORANGE.—A considerable advance is recorded here with the shipment quotation now at 7s. c.i.f. for Sicilian. Spot is fully 7s. 3d. per lb.

PEPPERMINT.—There is a much better tone in this market, which closes firm at higher rates: business has been moving on a better scale; Japanese dementholised, spot, sellers, 4s. 4½d.; for shipment, July-August, 4s. 4d.; October-December, 4s. 0½d. c.i.f.; American, spot, 7s. 3d. to 8s. per lb., in tins, as to brand; shipment, 6s. 6d. to 6s. 9d.

ROSE.—Prices for this year's oil are now to hand, and show a big reduction: "own distilled," 54s. to 57s.; green seal, 38s. to 40s.; July delivery.

It is estimated (states a Sofia report) that the crop was about 20 per cent. less than that of 1930. The yield was an average one. Cost of flowers was 7/9 levas per kilo, against 22 levas in 1930. It is estimated that the sales prices of the oil will be considerably lower than for last year.

SASSAFRAS is a quiet market: spot, 4s. 4d. to 4s. 10d. per lb., as to origin.

The following arrivals have taken place from the countries indicated during the period June 17 to 23 inclusive: —Anise, star (Hong-K.) 15 pkgs.; bay (U.S.) 6 cs.; beyrout (U.S.) 8 cs.; bergamot (It.) 7 cs.; cananga (Jv.) 1 dm.; cedarwood (U.S.) 5 dms.; (Gy.) 9 dms.; citronella (Gy.) 4 cs.; (Jv.) 10 dms.; clove (Fr.) 2 dms.; eucalyptus (Austl.) 86 cs.; (Spn.) 40 cs.; guaiacwood (U.S.) 5 cs.; lemon (It.) 40 cs.; orange (It.) 22 cs.; (Fr.) 2 cs.; palmarosa (Jav.) 4 cs.; peppermint (U.S.) 5 cs.; pimento leaf (Jam.) 6 cs.; rosemary (Algiers) 5 cs.; sandalwood (Ind.) 1 cs.; spearmint (U.S.) 2 cs.; various (Fr.) 2 cs.; ylang ylang (Fr.) 10 cs.

Fixed Oils, etc.

THERE has been rather more general interest in these markets. Linseed is dearer on a brighter market. Turpentine has remained dull but is fairly steady. **LINSEED** (raw, naked).—The market shows a considerable recovery, and business has been more active: on spot, 17s.; July, 16s. 9d.; July-August, 16s. 9d.; September-December, 17s.; boiled oil, on spot, 19s. 6d. **OLIVE** has been in a little better call, and the market is unchanged on quotation: edible, 4s. 10d.; B.P., 3s. 11d. per gallon, in 40-gallon barrels. **TURPENTINE.**—The market has remained rather quiet with values keeping fairly steady and about unchanged: on spot, 47s.; July-December, 47s. 6d.

Correspondence

Letters should be written on one side of the paper only. Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor.

Competition

SIR,—After many years of experience I agree with "Olden" in all his remarks supplementing those of "Stick at Nothing." In two towns in which I have had businesses, each has grown and flourished in spite of chain-shop competition, through personal attention and good service—not cutthroat reduction of prices. In one case I was the first comer; in the other the opposition was established when I opened. D. and P. I used to send out, but found it more satisfactory to do on the premises, though only when there was a staff for that work alone, and it did not interfere with the retail department. By this time I should have thought it unnecessary ("Observer," 17/7) to caution chemists about altering N.H.I. prescriptions, so as to increase the cost. If an expensive or unusual article is ordered, the best thing is to order without worrying the doctor. A telephone call to consult the prescriber is at the chemist's own expense; a telephone call to the wholesale house can be charged to the Insurance Committee if marked on the prescription. In case of doubt or impossibility of knowing the doctor's exact meaning on an insurance script I always send a note, of course in an envelope, letting the bringer of the prescription have the trouble and responsibility of taking it back and getting the matter made clear.—Yours, etc.,

H. B. MORGAN.

Kenilworth.

Salesmanship

SIR,—Mr. Ernest C. Cripps, in his concluding article on "The Business Side of Pharmacy" (*C. & D.*, June 6, p. 657) commences by saying that there is no subject pertaining to business about which so much is written and spoken to-day as salesmanship. If he has read some of the books and articles on the subject that I have, and more particularly those of American tendencies (as probably he has) he might well have added "so much useless matter." Such slogans as "Sell two instead of one," "Watch the prospect," "Clinch the deal" are apt to be very misleading to younger salesmen, who if they are keen get the impression that if a customer comes in for one article they are almost in honour bound to sell him other goods as well. This may be possible in some instances, but it has to be done tactfully and usually where the two articles go together, or where the customer gives a definite opening to introduce another line. Forced selling means lost customers. The customer who comes in and asks plainly and definitely for a particular article, and puts down the money, should be served promptly and pleasantly, and the matter be left at that. It must be remembered that every customer who enters the premises has some idea of purchasing something more or less defined in mind, and does not come in merely to give the chemist or his assistant an opportunity of practising salesmanship. This is particularly so in the case of toilet sundries, powders, perfumes, etc. Here the chemist or his assistant might well take a lesson from the bazaars; in those shops all goods are openly displayed on the counters and customers can inspect them. I am not sure that it is wise to keep the price in the background; much time may be wasted in trying to effect a sale, only to find at the end that the price is more than the customer can or will pay, whereas a tactful mention of the figure earlier would allow some other line to be introduced.

Yours truly,

APERTO (16/6).

Irish Pharmacy

SIR,—Your correspondent with the Latin tag (*C. & D.*, June 20, p. 702) discloses no point to merit his pseudonym; but from the inside knowledge disclosed, he must either be a member of the Council or, to use an Edgar Wallaceism, in touch with "a squealer." What grievance is disclosed by the remark "pulling the Pharmacy Bill to pieces?" Quite possibly it deserves it. Is there any truth in the amazing allegation that the reports of the Council meeting are censored? If so, who is the censor? More light, not censorship, is required for the Pharmacy Bill.—Truly yours,

DUBLINENSIS (23/6).

Weights and Measures

SIR,—The recent Belfast prosecutions for inaccurate dispensing bring to mind some important points. Why do so many chemists continue to measure by bottles? It is a bad policy. Even the modern dispensing bottle can vary to a great extent. Chemists will do well to examine their apothecaries' weights. On inspecting some of my own I found a difference of from gr. iij to gr. ix in 3ij weights. All mixtures (potent or simple) should be made in a glass measure for safety. In connection with the Belfast prosecutions it would be interesting to know how the potassium iodide mixture was directed to be taken. In this connection I would draw attention to a very dangerous medicine glass sold by stores at 2d. each. It has the same appearance as those sold by chemists, but the teaspoonful does actually contain 3ij. I consider that the authorities should, in the public interest, prohibit the sale of these. When the tablespoon was first adopted as a measure for medicine, there was a spoon of standard size found on the table at almost every meal in the average household. To-day we have soup ladles (3v-3j), dessertspoons (3iij-3iv), breakfast teaspoons (3iss-3ij), afternoon teaspoons (m.45-3j). I think medicines should be directed to be taken by a graduated glass or spoon. I suggest that chemists should attach a label to this effect to each bottle of medicine. I am enclosing a label bearing a new title—"The Medicine." What does "Mixture" mean to the public?—Yours truly,

F. W. D. (22/6).

Chemists' Charges

SIR,—"The Thistle" says (*C. & D.*, June 20, p. 731) that the low opinion in which pharmacy is held is simply because pharmacy renders professional service at less than labourers' wages. Is this not mixing cause with effect? Is the root cause not an "inferiority complex," and the lack of a professional ethic and of sufficient breadth of view to realise that no one lives for himself, and that every action done by each of us has a repercussion on pharmacy? What is wanted, it seems to me, is a development of the team spirit and a sense of the responsibility that rests on each of us to "play the game" in the interests of the whole. If this state of mind is once established, reasonable co-operation in business matters would naturally follow—and such co-operation can take place without loss of individuality; but what is to be hoped for when an incident such as the following can occur? On a recent half-holiday a customer asked for some photographic chemicals, and was told that it was illegal to supply. A few minutes afterwards he arrived with a written order from a neighbouring chemist for one of the items.—Yours faithfully,

TORCY (22/6).

Dispensing Notes and Difficulties

A Question of Compatibility

SIR,—We should be obliged if you would give us your opinion on the compatibility of the following:—

Potass. chloratis ...	...	gr. v.
Tr. ferri perchlor.	...	m x.
Liq. hydrarg. perchlor.	...	m x.
Liq. strychn. hydrochlor.	...	m iv
Syr. aurant.	...	3ss.
Glycerini	...	m xx
Aquam	...	ad 3ss.

Yours faithfully,

C. M. B. (7/2).

[The amount of water prevents any decomposition that would occur with, for instance, glycerin alone. Do not rub the potassium chlorate down with the glycerin first. Potassium chlorate with strong hydrochloric acid decomposes, and chlorine and chlorine compounds are produced; with the weak acid of tr. ferri perchlor. any chlorine that might be produced would not be found probably for weeks, and if this occurred the mixture would not be harmed during the ordinary time it would be kept. Any incompatibility of the strychnine solution with liq. hydrarg. perchlor. is countered or avoided by the dilution of the liquid, and the presence of glycerin and syrup. The most important thing to consider in dispensing this prescription is to dilute the constituents before mixing. Dissolve the potassium chlorate in 3 oz. of water and add the tr. ferri perchlor. and liq. hydrarg. perchlor. Mix the syrup and glycerin in the remaining water, add the liq. strychn., and finally mix the liquid, filling up the bottle.]

Legal Queries

H. G. (5/6).—The inclusion of the words "wounds, cuts and bruises" on the label involves liability to medicine-stamp duty.

F. P. S. (12/6).—Ipecacuanha wine comes within Part II of the Poisons Schedule. Consequently, the name "Ipecacuanha Wine" must appear on the label, together with the word "poison," and the name and address of the seller.

H. S. C. (11/6) are using, on a British product, a label upon which there is a small portrait of the King. Is this legal? [Although it is illegal to use the Royal Arms without authority, we know of no legal objection to the use of a portrait of the King, provided that it is not done in such a way as to imply royal patronage that does not, in fact, exist.]

T. R. P. (6/6).—If a person is insured under the National Health Insurance scheme, must he also be insured under the Unemployment Insurance scheme? [If the person is compulsorily insured under the Health scheme, he must also be insured under the Unemployment scheme, unless he is engaged in employment of a kind that is outside the scope of the latter scheme.]

A. A. (13/6).—A body corporate may carry on the business of a chemist and druggist provided that the keeping, retailing and dispensing of poisons is under the control and management of a superintendent who is a duly registered pharmaceutical chemist or a chemist and druggist, and whose name has been forwarded to the registrar of the Pharmaceutical Society. The company may use the title chemist and druggist if the registered superintendent is a member of the board of directors. There is no stipulation in the Poisons and Pharmacy Act, 1908, to the effect that the superintendent must be the managing director; merely that he must be a member of the governing body of the company if the title chemist and druggist is used in connection with the business.

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for, and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

M. C. S. (19/58).—The following spray for use as a deodorant for a room:—

Ol. lavand. spic.	...	...	m48
Ol. verbenæ	...	...	dr. 1
Ol. limonis	...	...	w20
Camphoræ	...	...	gr. 15
Ol. pini	...	...	m100
Ol. eucalypt.	...	...	a20
Formaldehydi	...	...	m30
Aq. dest.	...	...	oz. 1½
Alcohol	...	...	ad oz. 8

Use 1 oz. to each pint of water for a spray.

H. W. (30/5).—REMOVAL OF MARKING INK STAINS.—The following agents are recommended for the removal of stains caused by silver nitrate:—

- (1) Moisten the stain with a 1 per cent. solution of potassium cyanide; allow the solution to dry and then apply a 10 per cent. solution of sodium thiosulphate.
- (2) Apply a 10 per cent. solution of potassium iodide; then, to remove the yellow stain produced, apply a 10 per cent. solution of sodium thiosulphate.
- (3) Concentrated solution of cupric chloride, followed by the application of a solution of sodium thiosulphate.
- (4) Moisten the stain with the following solution:—

Mercuric chloride	...	...	5 grams
Ammonium chloride	...	...	5 grams
Water	...	...	40 grams

Wash with water.

W. G. (9/66).—PEROXIDE TOOTH PASTE.—The manufacture of peroxide tooth pastes presents certain difficulties owing to the tendency of these preparations to shrink when packed in ordinary collapsible tubes. This is largely attributable to the inclusion of alcohol or of water in the formula, both of which should be avoided. As a result of a series of comparative tests the following formula has been found in practice to yield a very satisfactory preparation:—

Magnesium peroxide	...	...	50
Liquid paraffin	...	...	20
White hard soap	...	...	15
Precipitated calcium carbonate	...	...	500
Oil of peppermint	...	...	2½
Oil of anise	...	...	1
Glycerin, a sufficiency to form a paste.	...	...

Great care should be taken in mixing the ingredients, and direct contact with metal in the mixer should be avoided. On a manufacturing scale these parts are enamelled.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," June 15, 1881

Liquor and Libel

The prisoner [in a London police-court case] pleaded that he had written the libel while under the influence of zoedone, and evidence was given by a friend of his, a member of Parliament, that he drank seven or eight quarts of that seductive fluid daily. If an anti-zoedonic society does not result from this revelation it will be hard on alcohol. Crime has not often been so directly brought home to a beverage. And possibly we do not know the worst. If eight quarts of zoedone will produce a libel, perhaps a few more would yield a burglary. We still want a liquor of guaranteed moral character.

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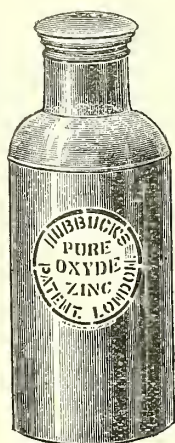
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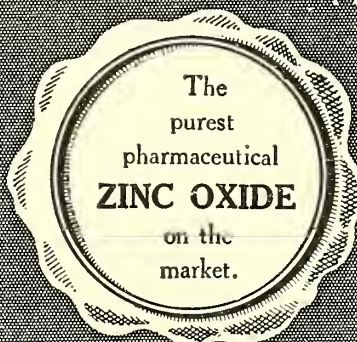


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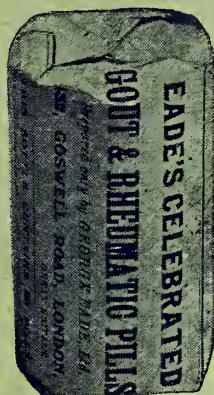
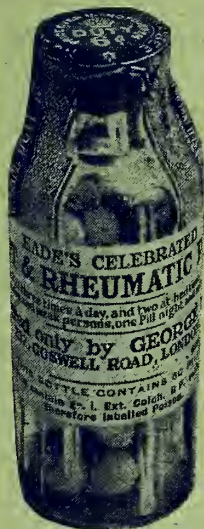
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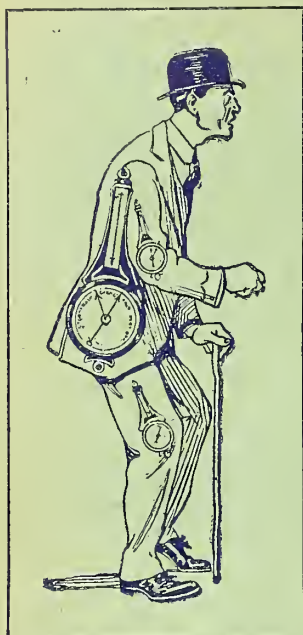
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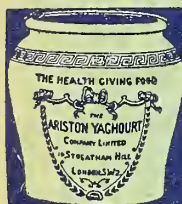
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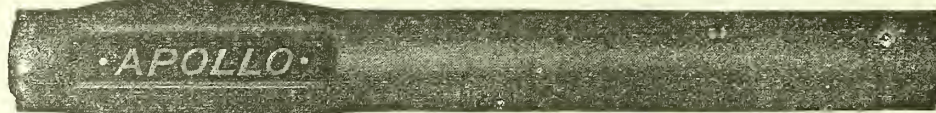
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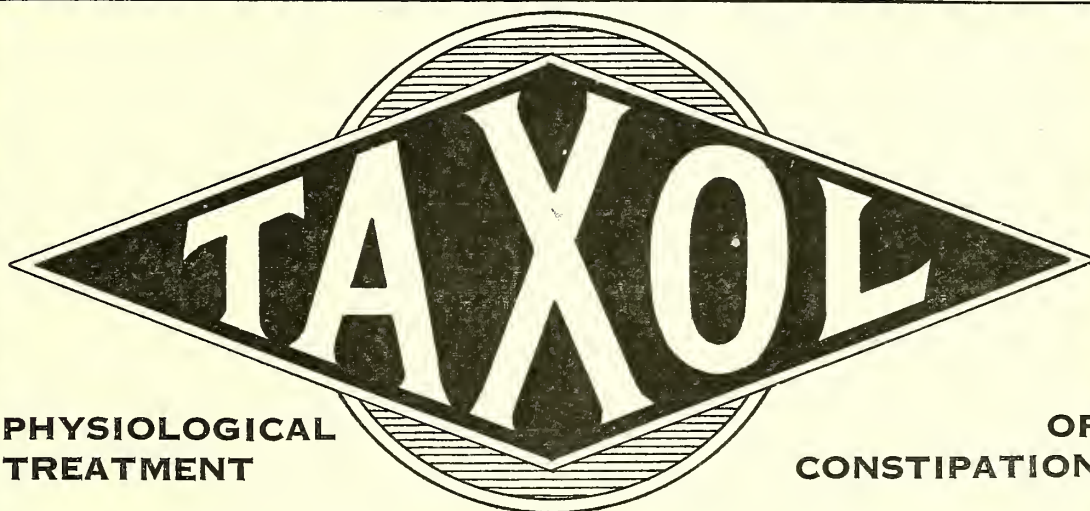
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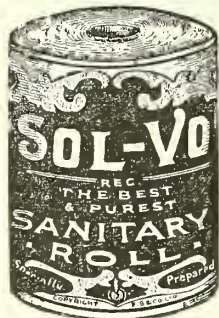
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SILVERTOWN, E.16***Telephones :
Albert Dock 2741-2***REDDGRAVE SITORA LTD.****PARAFFINUM LIQ. BP.***Telephones :
Albert Dock 2741-2***UNITED WHARF, SILVERTOWN, E.16****REDDGRAVE SITORA LTD.**

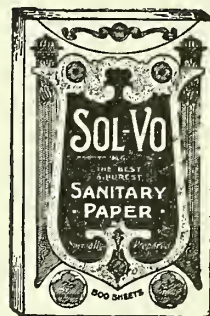
SOL-VO SANITARY ROLLS & PACKETS.

SOL-VO

REG^d

THE BEST & PUREST

SANITARY PAPER




	per doz.		per doz.
Three dozen Rolls ...	7/- net.	Three dozen Packets ...	10/- net.
Half gross " ...	6/6 "	Half gross " ...	9/6 "
One gross " ...	6/- "	One gross " ...	9/- "
Five gross " ...	5/3 "	Five gross " ...	8/3 "

CARRIAGE PAID. CASES FREE.

FORD, SHAPLAND & CO. Ltd.LABELS & SHOWCARDS — PRINTERS — CARTONS & ENVELOPES.
GT. TURNSTILE, HIGH HOLBORN, LONDON, W.C.1

TELEGRAMS: FORSHAPCO. WESTCENT. LONDON.

TELEPHONES: HOLBORN 4695 (3 LINES)



Advertising Balloons

**SQUEAKERS,
DYING BOARDS,
SWANS, BIRDS,
ELEPHANTS, &c.**

JOSEPH HARRIS & COMPANY
RUBBER WORKS, BROADHEATH, ALTRINCHAM.

A VERY EFFECTIVE
FORM OF ADVT.
SPECIAL DESIGNS
SUBMITTED.

WHOLESALE & EXPORT
ENQUIRIES INVITED.
WE ARE ACTUAL MANUFACTURERS

J. H. HAYWOOD, Ltd. CASTLE NOTTINGHAM
GATE

Tele.: "Appliance Nottingham." Established 1833. Telephone: 40488 Nottm.

SURGICAL APPLIANCE MANUFACTURERS.**SPECIALITIES FOR SUMMER.**

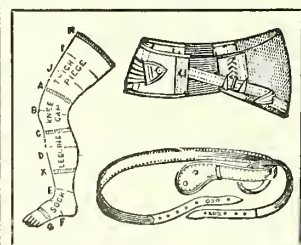
Elastic Hosiery, with or without seams, suitable for Summer wear.

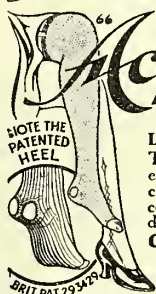
Trusses, Spring and Elastic, Suspensory Bandages, Abdominal Belts, made from porous materials.

Elastic and Leather Supports, for Cricket, Tennis, Golf and Boating.

Goods for Toilet and Seaside trade.

India Rubber Appliances, Nursing Requisites, Druggists' Sundries, etc.



**PERMANENT RELIEF
for VARICOSE VEINS**

Insist on the World-Famous

**"Academic" REG-D
RUBBERLESS STOCKING**

Medically Approved

LEGS ALWAYS SLIM & SHAPELY

The patented heel is most effective, and ensures strong support. The heel never curls, always retains its position, and consequently there is no discomfort or damage to silk hose.

**COMFORTABLE, HYGIENIC,
WASHABLE & INVISIBLE**
under the finest silk hose.

DESCRIPTIVE BOOKLET FREE.

From D. H. Evans, Selfridges, Harrods, Army & Navy Whiteley's, Gamage's, Birkens, Lewis's (Liverpool, Birmingham, Manchester), Jenners (Edinburgh), Brown, Muir (Bradford), Fenwicks (Newcastle), all branches of BOOTS The Chemists, and other leading London & Provincial Houses. If difficult to obtain, write to:

ACADEMIC DEPOT, 158/162 Oxford St., London, W.1

One of the series of Academic advertisements.

**SHARE
IN THIS
BIG
BUSINESS**

Wherever the Academic Rubberless Stocking is displayed it sells at sight

Backed by an intensive Advertising Campaign, national in character, sales continue to eclipse :: :: all records :: ::

You are invited to write for the Academic literature, showcards, and trade terms.

"ACADEMIC" DEPOT**158/162 OXFORD STREET, LONDON, W.1**

'Phone: Museum 6313 'Grams: EORGENLIBI, RATH, LONDON

**THE "SAFEGUARD"
BRAND OF RUBBER GOODS**Are SUPPLIED to CHEMISTS & DRUGGISTS ONLY
FINEST QUALITY. HYGIENIC PACKING

Write for Samples and Prices.

BURGE, WARREN & RIDGLEY, LTD.**91/92 GREAT SAFFRON HILL, E.C.1**

Phone: Holborn 0050. Telegrams: Pessaries, Smith, London.

**DOCTOR'S ADHESIVE PLASTERS with Zinc oxide
THAT DO STICK!**

Ask for Price List and Compare

KAYDOR LTD., 30 Howland St., London, W.1Proprietors
of**MORFI**Rubber
Products**WILSON***Surgical
Industrial &
Household**"The temper of
finest Steel"***GLOVES**SUPPLIED TO THE
TRADE EXCLUSIVELY*Rd. Blaker***11, CANUTE RD.
SOUTHAMPTON****PERKEN, SON
& CO., LTD.**

Established 1852.

**Contractors to H.M.
Government.**THE
"MASTER"
CLINICAL
REGD.**ALL
TYPES
OF
CLINICAL
AND OTHER
THERMOMETERS**

Price List on Application.

**94 HATTON GARDEN,
LONDON, E.C.1**

Telephone: 0724 Holborn.

Telegrams: "Optimus, Smith, London."

To BUYERS of TRUSSES!The most complete up-to-date facilities for the manufacture of **RUPTURE APPLIANCES** of every known English and American pattern are operating at**BLACK BULL WORKS,
MARKET ROAD, LONDON, N.7****Hard Rubber, Celluloid, Leather, and Mole
covered Trusses under the****"MASTER"
BRAND
TRADE MARK**are sold in all
Markets of the
World.**"KO-RALLIUM."** A new flexible covering for Steel Springs, is immune from Warping, Cracking, Shrinking or Peeling. Non-Inflammable, Impervious to Moisture, Neutral to URIC ACID Secretions.

Supersedes Hard Rubber or Celluloid.

Get to know of this. **It is Something Different!****Suspensory Bandages and Jock Straps**

We offer distinctive lines of outstanding value. Our weaving sheds allow of all intermediate profits being passed to our customers.

Write for sample range at Special Rate, then compare.

F. SCHUTZE & CO., LTD.**Black Bull Works, Market Road, London, N.7**

Obtainable only from Chemists

LOCARNO Regd.

**MEDICATED
TOILET ROLL**



COSTS 3^d

SELLS AT 6^d

**BRITISH
MADE**

Pure White Sulphite

"Gladio" Regd.

**MEDICATED
TOILET ROLL**



COSTS 4^d

SELLS AT 8^d

**BRITISH
MADE**

Pure Manilla

Packed in half gross cartons free.

All orders carriage paid.

Showcards and free sample on application.

Awarded the Certificate of the Institute of Hygiene for

PURITY

Security for the Chemist. Repeat Orders

ACTUAL MANUFACTURERS:

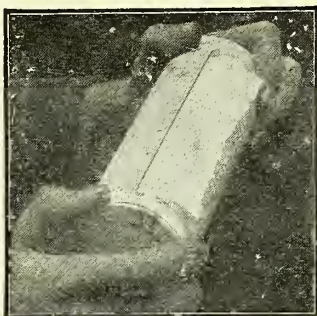
J. RUTHERFORD & Co. Ltd.

VICTORIA PAPER MILLS, VICTORIA RD., HOLLOWAY, LONDON, N.7

Contractors to H.M. Government

"STERAID" Regd.

Series of Surgical Gauzes & Lints

MADE IN
ENGLAND

Introduced in 1924 to fill a demand for a Container which would be simple to handle without contamination of contents. Only that quantity required for immediate use is drawn out of the Container; the remainder of the Dressing being never exposed to the atmosphere until needed.

Patent Number
221761.

Rotate the flange of the inner portion of the container in the direction of arrow until dressings appear and interior slot is visible.

GAUZE	Minimum Public Prices.			Minimum Trade Prices.		
	Each.			Per doz.		
(Super Quality).	6-yd.	3-yd.	1-yd.	6-yd.	3-yd.	1-yd.
Plain Absorbent	1/8	1/10	-7	15/-	9/4	5/3
Sal Alembroth, Boric, Sublimat, Carbolic	1/11	1/2	-7 1/2	17/3	10/6	5/7 1/2
Double Cyanide	2/-	1/2 1/2	-8	17/6	10/7	5/9
Picric and Iodoform	2/8	1/7 1/2	-9	24/-	13/10	6/9

LINTS

(Super Quality).	6-in.	4-in.	2-in.	6-in.	4-in.	2-in.
Plain or Boric	2/2	1/7 1/2	1/1	19/8	14/7	9/6

Approximate length of Lint: Plain, 6 yds.; Boric, 4 yds.

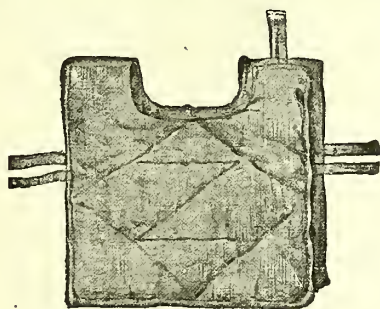
Copy of letter from INSTITUTE OF HYGIENE—

"I am directed to inform you that a sample of the above certificated speciality was purchased in the open market recently and submitted to a laboratory examination. I am further to add that the result of this check analysis was quite satisfactory, the figures indicating that the standard of quality registered at the time the Certificate was awarded is being maintained by you.

"Signed—Secretary Institute of Hygiene. Nov. 8, 1929."

"ZORBO"

PNEUMONIA JACKETS



P.A.T.A. PRICES.

Size	8x6	Infants'	Min. Retail Price.	Min. Wholesale Price.
1.	8x6	Infants'	7d. each.	5/3 dozen.
2.	10x8	Children's	8d.	6/1 "
3.	12x10	"	11d.	7/9 "
4.	15x12	Adults'	1/2 "	9/1 "
5.	19x13	"	1/5 "	11/7 "
6.	21x15	Extra Large	1/8 "	13/4 "

"CYNTA" Regd. **SANITARY**
"TOWELINES" Regd.COMFORTABLE, SOFT, ABSORBENT.
LONG GAUZE ENDS AND LOOPS.

NO INFERIOR FILLING.

Size	0	1	2	3	4	
PUBLIC PRICE	1/-	1/2	1/7	2/-	2/3	per pkt.
TRADE PRICE	8/9	10/2	13/9	17/5	19/7	per doz. pkts.

Size "Superior" (Thick pad with Bandage ends, Sterilized and specially recommended for Accouchement).

PUBLIC PRICE	3/-	per pkt.	TRADE PRICE	26/-	per doz. pkts.
--------------	-----	----------	-------------	------	----------------

"CYNTA" COMPRESSED TOWELINES
Each in Carton.

Size	1	2	3	
PUBLIC PRICE	2d.	each	2 1/2d.	each
TRADE PRICE	15/3	per gross	18/1	per gross

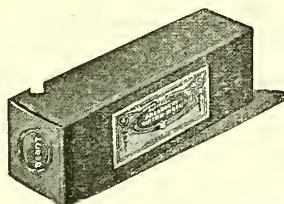
"CYNTA" COMPRESSED TOWELINES
Each in Carton with Safety Pins.

Size	1	2	3	
PUBLIC PRICE	2 1/2d.	each	3d.	each
TRADE PRICE	16/-	per gross	18/10	per gross

"ZORBO" Regd.

Extra Superfine Absorbent Cotton Wool

"Eminently suitable for surgical purposes."



All prices subject to alteration without notice.

Introduced in 1914 by the request of a number of Doctors. It is a perfect Surgical Cotton, made from carefully selected pure long Stapled Cotton. Specially recommended for ear, eye and nose treatment. Sterilised in Packets, Cartons, or hermetically sealed Tins. Will sterilise to 120° C. without becoming brittle, or being reduced to ash.

MINIMUM PUBLIC PRICES.

	16-oz.	8-oz.	4-oz.	2-oz.	1-oz.
Packets	3/6	1/9 1/2	11d.	6d.	3 1/2d. each.
Cartons	3/8 1/2	1/11	1/-	7d.	4d. "
Tins	4/4	2/4	1/3	9 1/2d.	"

MINIMUM TRADE PRICES.

	16-oz.	8-oz.	4-oz.	2-oz.	1-oz.
Packets	28/-	14/6	7/5	3/11 1/2	2 1/2 per doz.
Cartons	29/7	15/3	8/-	4/5	2/7 "
Tins	34/9	18/6	10/1	6/5	"

ROBERT BAILEY & SON LTD., Marriott Street Mills, Stockport.

HIGH-CLASS SURGICAL DRESSINGS OF GUARANTEED BRITISH MANUFACTURE.

Telegrams: "Undisputed, Stockport."

Telephones: 2794, 4166, Stockport.

London Office: Sentinel House, Southampton Row, W.C.1.

'Phone: Museum 8340/69.

WHOLESALE AND EXPORT ONLY.

**Imitation may be flattering
..... but it's bad business**



THERE'S only one soluble sanitary pad that gives Kotex protection, Kotex safety, Kotex disposability and Kotex reliability—and, that is Kotex itself. Imitations bought on the grounds of price are not as good.

It is not possible at cheap prices to make pads of Kotex quality and reliability. Kotex is treated to deodorize by a special and costly process. Each Kotex pad is made under rigid test conditions, ensuring it reaching the user in perfect sanitary condition . . . giving utmost safety and comfort.

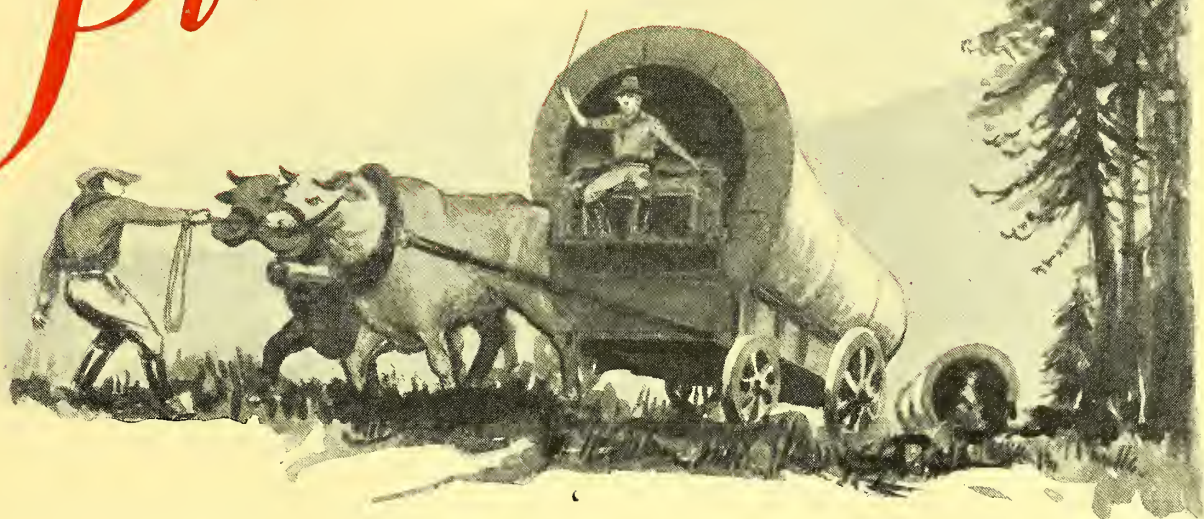
We are constantly giving out this vital message in Kotex advertising—telling women to come to you for Kotex, and to **insist** on Kotex.

We urge you as a Kotex stockist to remind your customers of this. They will obtain satisfaction from using the best protection possible—and become regular customers all the year round.

Display Kotex—sell Kotex. There's effective display material ready for you now, **free**. Send at once for metal counter stand & new Kotex showcard.

KOTEX LTD. 78 SALUSBURY RD. LONDON N.W.6. PHONE:-MAIDA VALE 2900

Pioneers!



ASPIRGRAN makes perfect tablets without regranulation. It is ready to feed into your machine after dry mix.

MONSANTO were the first to introduce ASPIRIN IN GRANULAR FORM.

In 1924, after extensive laboratory research and exhaustive tests and experiments, we produced a pure ACETYL SALICYLIC ACID of unique form which we registered as ASPIRGRAN.

ASPIRGRAN, by reason of its purity—its claim to do away with tedious regranulation—absence of acetic odour—and ready “flowing” properties met with instant appeal from discriminating makers of ASPIRIN TABLETS.

ASPIRGRAN is purest ACETYL SALICYLIC ACID, B.P., and is sold with our unqualified guarantee of quality and uniformity—there is no mixture or other ingredients incorporated in our product—it is 100% ASPIRIN.

Naturally the resultant success of our Pioneer work has had its imitators, which conveys an obvious moral—nevertheless ASPIRGRAN REMAINS SUPREME. AN INCOMPARABLE PRODUCT.

You can prove our claims by test. ASK FOR A SAMPLE.

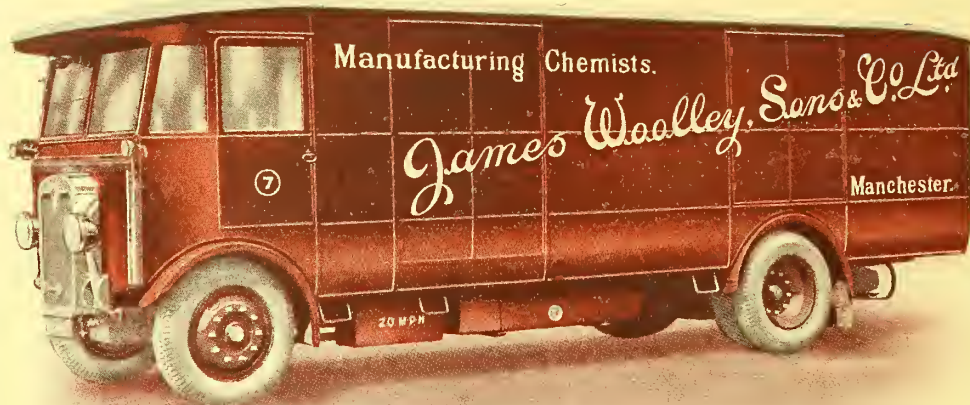
MANUFACTURED BY

**GRAESSER-MONSANTO
CHEMICAL WORKS LTD.**

VICTORIA STATION HOUSE,
VICTORIA STREET, LONDON, S.W.1.

WORKS:
RUABON,
NORTH WALES.
WEAR TAY WORKS
SOUTH DOCK,
SUNDERLAND

ASSOCIATED WORKS
ST. LOUIS,
U.S.A.



Woolley

for
QUALITY, SERVICE,
and
PROMPT DELIVERY
in
all your
pharmaceutical
requirements.

JAMES WOOLLEY
SONS & Co. Ltd
VICTORIA BRIDGE, MANCHESTER

SUGAR COATED PILLS



Packed in 1d., 3d. and 1/- boxes, as illustrated.

PARKINSONS' PRODUCTS

are always dependable, being manufactured under the supervision of fully qualified chemists

SUGAR COATED PILLS

include the following : Blood and Stomach, Head and Stomach, Back and Kidney, Liver, Celery, &c.

EZ POWDERS and KILKOF

are two other specialties which it pays you to stock.

PARKINSONS LTD.
Manufacturing Chemists. **BURNLEY.**

An open letter to Chemists and Druggists.

HONE
STOCKPORT 3614
WIRES "GALEN
STOCKPORT"



DIRECTORS
SIR REGINALD BUTLER BART
G.A. TUTTON M.E. SHARP
A. GREENHALGH



THE GALEN PRODUCTS CO. LTD
ST PETERSGATE
STOCKPORT

Dear Sir,

In offering you the Galen Products described on another page of this issue, we rely on the three-fold appeal of High Quality at a popular price, a large profit margin and strong counter cards.

Galen's association with the art of healing was the result of a dream (otherwise he was to have been a philosopher) but Galen products embody the realisation of a decision to manufacture and offer only the best and most efficient medicated lozenges and pastilles at a price within the reach of all.

In pursuit of this policy of keeping prices low and profits high we have decided to cut out the cost of travellers and offer Galen Products through the wholesale trade, and we rely on the support of Pharmacists for this policy which has been adopted for their own greater profit and convenience.

Yours truly,

THE GALEN PRODUCTS LTD.

Geo. A. Tutton
Managing Director.



Introducing

Galen was a pioneer of A.D. 131 or thereabouts. Galen Products are pioneers of A.D. 1931.

Galen Products are the expression of an ideal—to give the very best possible medicated lozenges, pastilles, etc., at popular prices, and with an adequate profit margin.

Galen "Mints," for example, are hand-made lozenges with a high content of real Mitcham ol. menth. pip.

Similarly Galen Cinnamon Lozenges rely for their efficacy on Langdale's oil of cinnamon.

In pastilles there is "Sister's Throat Pastilles," a warming and soothing pastille of the Chlorodyne type.

Galen Products are sold in 6d. tins (Sister's Throat Pastilles 6d. and 1/-), and are obtainable through wholesalers only.



*This
Striking
Showcard
with
every
order.*

Write for Samples and
Trade Prices to—

**GALEN PRODUCTS CO., LTD.
STOCKPORT.**

(Phone : 3614.)

"SURCO"

RELIABLE

ELASTIC

HOSIERY

SEAMED & SEAMLESS

For special garments
to measure we maintain
a 24-hour service.

:: BODY BELTS ::
TRUSSES :: SUNDRIES

Write for Catalogue.

SURGICAL HOSIERY CO., LTD.

Russell Street :: NOTTINGHAM

Telephone.
No, 75903.

Telegrams :
"Surgical, Nottm."

De Luxe ART. SILK BANDAGES

"Crêpsyl" (WOVEN CRÊPE)
Dainty and ideal for
understocking wear.

BANDAGES—widths 2in. to 4in. 1/8 to 3/4 ea.
BINDER—widths 4in. to 15in. 3/4 to 12/6 ea.

Beware of imitations and copies.

There is only one Crêpsyl Bandage, and
only one Silvick. Passing off is illegal.

"Silvick" (WOVEN STOCKINETTE)
Ideal for Varicose Veins.
Bandages 2/- to 4/- ea.
Binders 4/- to 15/- ea.

ALL BINDERS REINFORCED TO PREVENT
SAGGING. SAMPLE CUTTINGS FROM MAKERS.

H. W. LAKE LTD.
6 & 7 C.D. Redcross Street
LONDON, E.C.1

"MOSANS" Non-Greasy, Odourless QUININE PESSARIES



15/-
per dozen
boxes
RETAIL
3/6

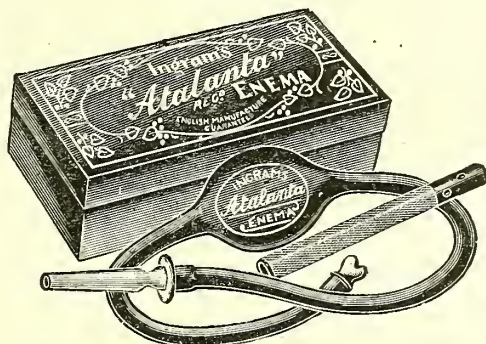
ORDER THROUGH USUAL WHOLESALER.

Avoid Imitations and see the No. 332117 on each box.

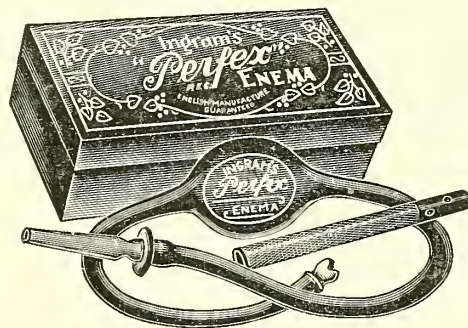
Ingram's
LONDON.

LONDON MADE SEAMLESS ENEMAS

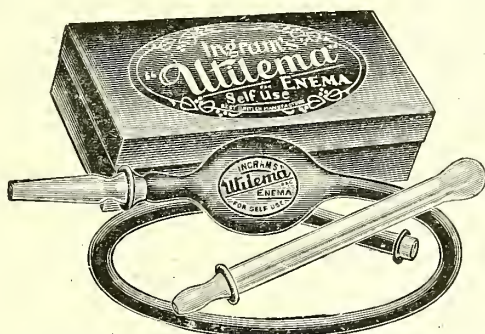
London—the birthplace of the great Rubber Industry ; its rubber products are recognised as the “standard” of the World. Ingram's well-known series of guaranteed enemas are made at The London India-Rubber Works, famous for the manufacture of Fine Surgical Rubber Products for over 83 years.



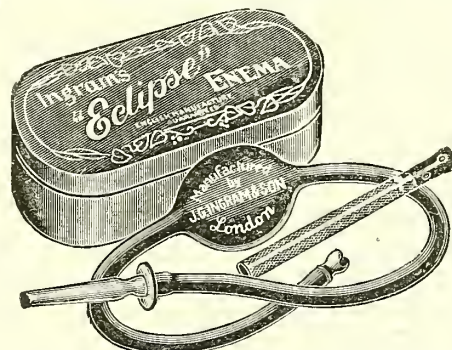
A Special Quality Enema. (Large Bulb.)
Fitted complete with Bone Rectum and Gum Vagina
Pipe and Leather Shield.



A Reliable Quality Seamless Enema. (Ordinary Bulb.)
Fitted complete with Bone Rectum and Gum Vagina
Pipe and Leather Shield.



A Sterilizable Enema for Self Use. Easily handled
in any position. Fitted with Aseptic Glass Pipes and
Valves or, if desired, with Bone Pipe.



A Guaranteed Reliable Seamless Enema. (Large Bulb.)
Fitted complete with Bone Rectum and Gum Vagina
Pipe and Leather Shield.

The above illustrates four of the P.A.T.A. Series. The full series are :—

TRADE MARKS.

“ Adaptable ”	“ Eclipse ”	“ Sterilendum ”	“ Zebina ”
“ Atalanta ”	“ Utilema ”	“ Zenith ”	“ Perfex ”

All boxed complete, with directions.

Obtainable from all Wholesale Houses.

J. G. INGRAM & SON, LTD.

THE LONDON INDIA-RUBBER WORKS, HACKNEY WICK, LONDON, E.9

Summer Sports

stimulate the demand for

NORVIC

CRÊPE BANDAGES



The cricketer . . . the tennis player . . . the hiker . . . the golfer . . . think of the number of outdoor enthusiasts who need the support which NORVIC Crêpe Bandages so well provide. Sprains, weak ankles, knees and legs, all demand NORVIC — are you ready for this increased business? A small window or counter display prompts people to buy and brings certain sales.

Full 33 $\frac{1}{3}$ % profit P.A.T.A.

Cost	Sell
2 $\frac{1}{2}$ " wide 12 -	1 6 each
2 $\frac{3}{4}$ " " 15 3	1 11 "
3" " 18 3	2 3 "
3 $\frac{1}{2}$ " " 21 3	2 8 "
4" " 24 3	3 - "

Orders for 3 doz., less 2 $\frac{1}{2}$ %
5% Discount.

Attractive showcards free on request
from all the leading wholesalers.

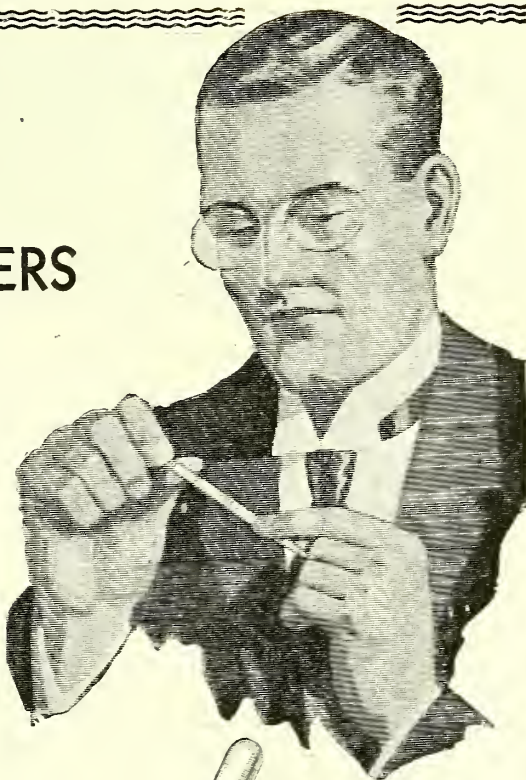


ZEAL

CLINICAL THERMOMETERS

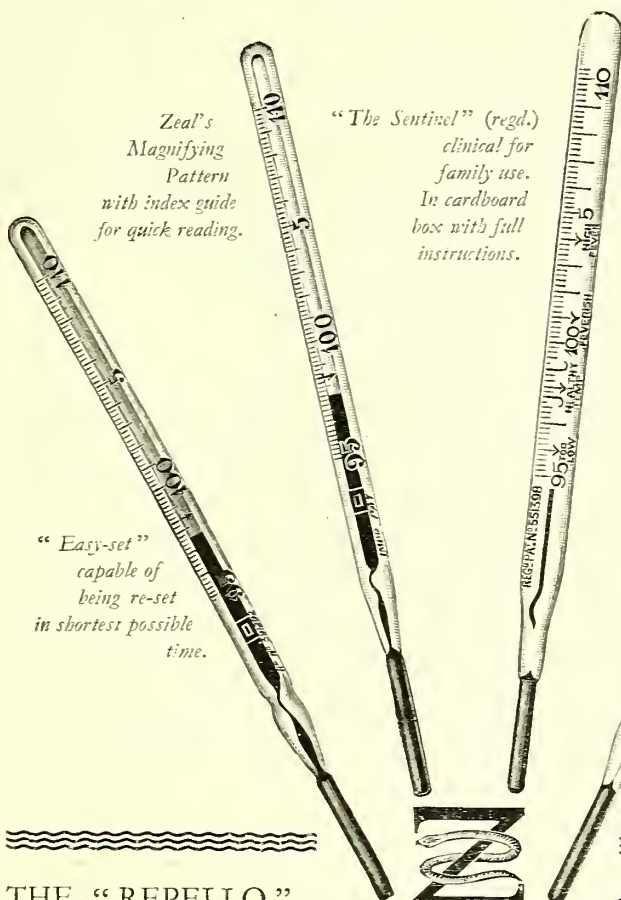
are the choice of experts

They create confidence and are eminently suitable for Chemists as they have gained a solid reputation for accuracy and reliability and are sold with a guarantee.



*Zeal's
Magnifying
Pattern
with index guide
for quick reading.*

*"The Sentinel" (regd.)
clinical for
family use.
In cardboard
box with full
instructions.*

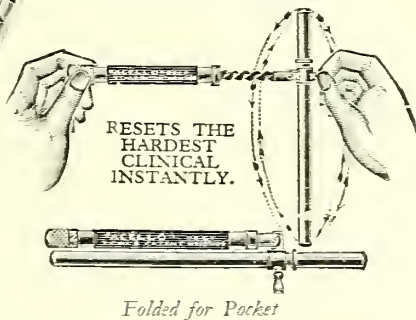


*"Easy-set"
capable of
being re-set
in shortest possible
time.*

*Zeal's
non-magnifying
pattern for
Hospitals and
Institutions.*

THE "ACELLO" RESETTING CASE

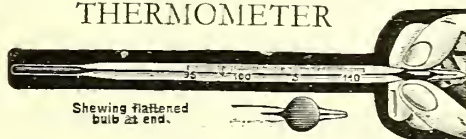
For Clinical Thermometers



RESETS THE
HARDEST
CLINICAL
INSTANTLY.

Folded for Pocket

THE "REPELLO" CLINICAL THERMOMETER



Showing flattened
bulb at end.

No shaking down required



G. H. ZEAL, LTD.
75-77 St. John Street
LONDON E.C.1

Telephone: Clerkenwell 9658 9659

The FITTING FINISH to a PERFECT BOTTLE

Operating the most up-to-date
factory specially laid-out and
equipped for the manufacture
of metal closures

The U.G.B. welcomes
enquiries for plain
or decorated caps
in aluminium
or tin



UNITED GLASS BOTTLE
MANUFACTURERS LIMITED

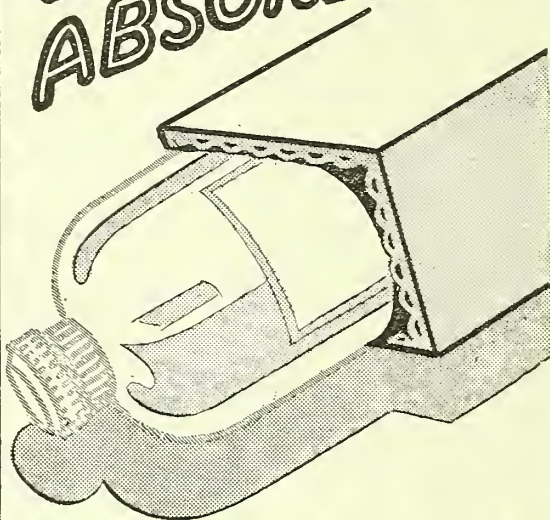
HEAD OFFICE

40 - 43, Norfolk St., Strand, London,
W.C.2.

Telephone:
TEMPLE BAR 6680.

Telegrams:
Unglaboman, Estrand, London.

Send out
your Goods
in SHOCK
ABSORBERS!



**CORRUGATED
PACKING MEANS
AN INSURANCE
AGAINST RISK
OF BREAKAGES**

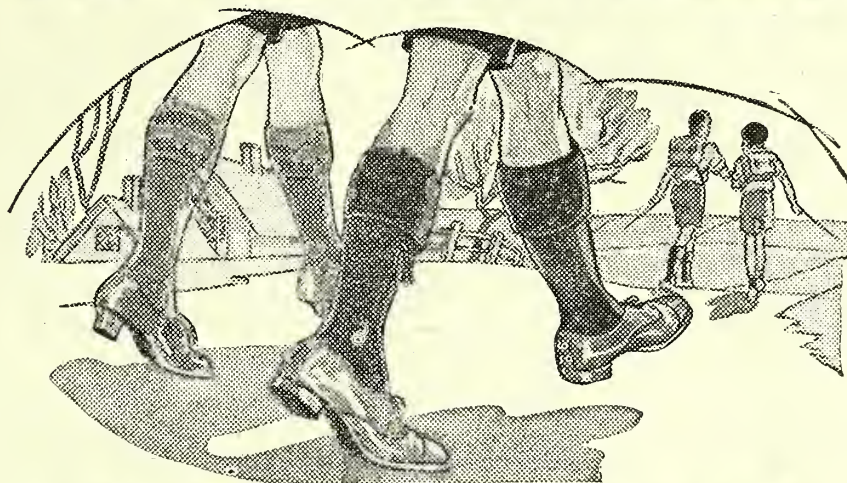
IT ADDS 50 %
TO THE NEAT APPEARANCE
OF YOUR GOODS

Write for Samples & Prices to-

**CORRUGATED PACKING
MATERIALS Co. Ltd.**
4 AMBROSE ST. MANCHESTER.

LONDON REPRESENTATIVE : MANCHESTER REPRESENTATIVE
FRANK D. WELLER FRANK D. WELLER
DOMINION HOUSE 55 MARKET STREET
BARTHOLOMEW CLOSE, E.C.1 MANCHESTER
Tel. : National 4042. Tel. : Cent. 7935.

CATER for HIKERS!



"SCHOLL" ADVERTISING sends them to YOU

The above illustration appeared as part of a large-space "Scholl" advertisement in The DAILY MAIL and other papers. The advertisement was a timely message to hikers. Hikers, of all people, must have foot comfort. Are you "cashing in" on the great popular Hiking Movement which is being "boomed" by all newspapers and magazines? Do not miss your chance—Scholl Advertising will help you. Make a special window unit-display appealing to hikers.

Feature in your Window :—

Dr. Scholl's **ZINO-PADS**

Dr. Scholl's **Foot Powder**

Dr. Scholl's **BATH SALTS**

ORDER FROM YOUR USUAL WHOLESALER

OR THE

SCHOLL MFG. CO. Ltd., 188-194 St. John St., London, E.C.1

L. LEPERSONNE & Co. 99 CANNON STREET LONDON - E.C.4

Telephones:
Mansion House 4901 (8 lines)

WHOLESALE DISTRIBUTORS FOR

Established
1888

Telegrams:
Lepersonne London

HOME TRADE AND EXPORT

FOR ENGLISH, FRENCH, BELGIAN, GERMAN AND CZECHO-SLOVAKIAN FACTORIES

BOTTLES & JARS OF EVERY DESCRIPTION



for Druggists' Sundriesmen, Manufacturing Chemists
and Perfumers, Confectioners, Food Packers, Essence
Distillers, Oil Refiners, Makers of Disinfectants, Inks,
Gums, Varnishes, &c.

All usual colours, closures and capping

GLASS TUBES and RODS for glass blowers.

Please address **BOTTLE DEPARTMENT**

EXPORT BUYERS—please ask for our special ILLUSTRATED EXPORT LIST

ACELTA CAPPING SOLUTION

THE ORIGINAL ——— AND STILL THE BEST!

Attractively replaces old-fashioned methods of bottle capping.
Samples and prices on application.

Direct or from your usual wholesaler. Note New Address:

ACELTA CAPPING CO. LTD. :: DERBY STREET :: MANCHESTER

IT IS AN INDISPUTABLE FACT 'H.M.G.'

in its improved form is the best CAPPING SOLUTION
yet obtainable.

H. MARCEL GUEST, Ltd. OLIVER STREET,
LR. OPENSHAW, MANCHESTER

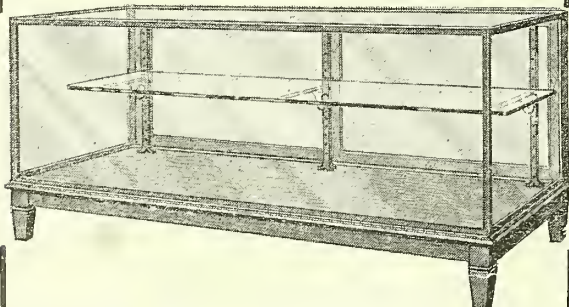
HORNBY'S TINS

For all chemists' purposes

WRITE NOW for samples and prices.

HORNBY & CO. (HULL) LTD.
36 HIGH STREET, HULL

GLASS COUNTERS BRING MORE TRADE



No. CD/SF 2920. A soundly constructed Display
and Serving Counter made in our own works at
Holloway Road—6 ft. x 3 ft. x 2 ft. oak or mahogany
framing, glazed new 1/4" drawn plate glass top,
front, and ends. Clear glass sliding doors at back.
Interior fitted 1 row of shelves 12" wide, brown
bronze bars and brackets.

DEFERRED TERMS

An initial payment of 18/10
secures this counter, and 11 fur-
ther equal monthly payments
of the same amount make it
your own complete property.

£10-15-0

Cash Price. Ex. Works.

Send for our New List No. C.D.1260.

DUDLEY & COMPANY, LIMITED
451 HOLLOWAY ROAD, LONDON, N.7
City Showrooms: 65-66 FORE STREET, E.C.

English Filter POSTLIP Papers

SQUARES
CIRCLES
FOLDED
ROLLS

WHITE
GREY
PLAIN
ANTIQUE
EMBOSS
CRINKLED

SAMPLES
FREE

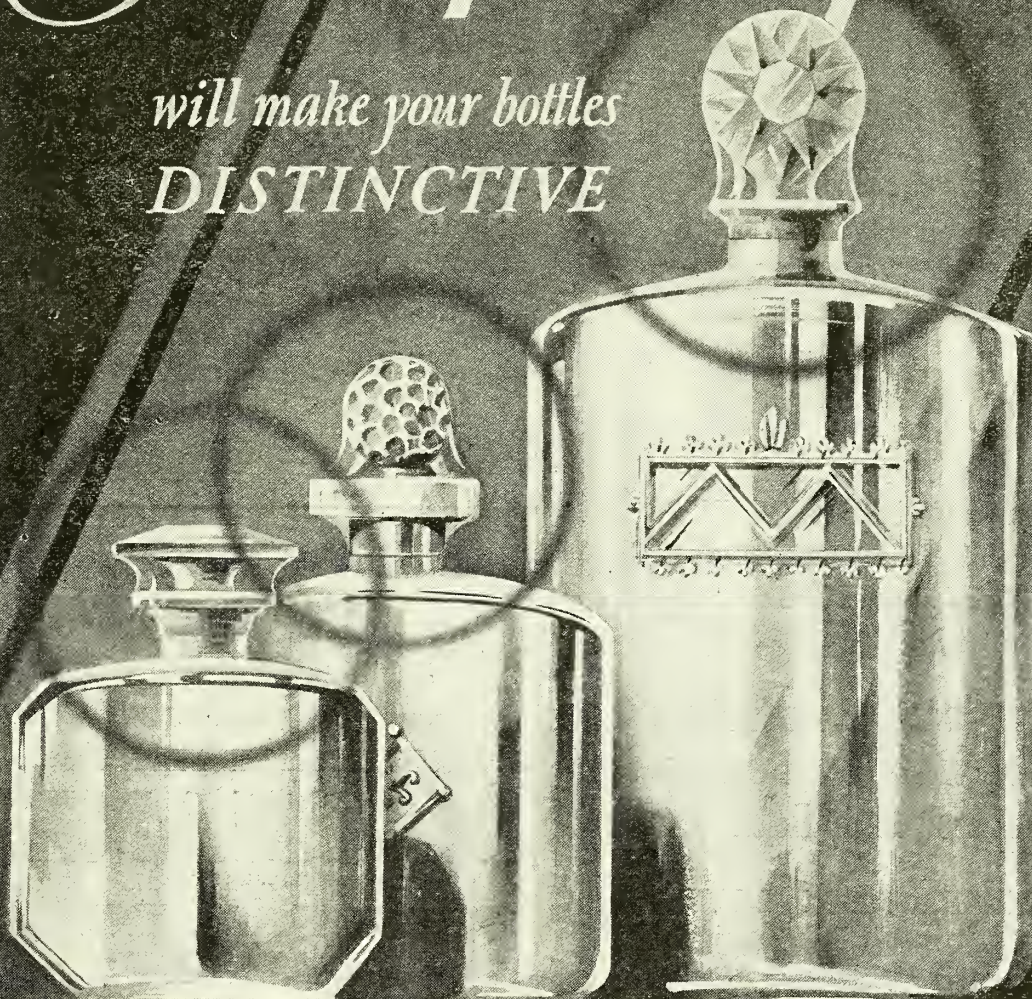
Postlip Filterings are stocked by all the leading Wholesale
Laboratory Dealers.



Evans, Adlard & Co. Ltd
Postlip Mills, Winchcombe, Cheltenham.

“Adaptocaps”

will make your bottles
DISTINCTIVE



BRITISH MADE

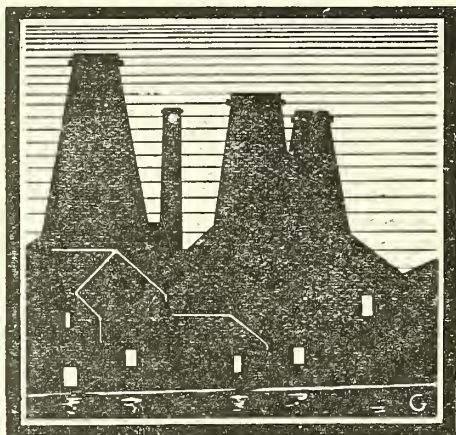
The most suitable capping for perfumery products
Special low rates for large quantities

The London Capsule Company

EMPIRE WORKS - MITCHAM ROAD - CROYDON

Telephone: Thornton Heath 3014

MB



PHARMACEUTICAL GLASSWARE of all kinds

DISPENSING BOTTLES
CHEMISTS' SHOP BOTTLES
INFANTS' FEEDING BOTTLES
SOXHLET BOTTLES
EYEBATHS

**Designers & Manufacturers
of Glassware for Perfumes,
Cosmetics and Bath Salts**

SPRINKLER NECK BOTTLES
WHITE OPAL and FROSTED
GLASSWARE

*All our Manufacture is
of the Highest Quality*

**WOOD BROS. GLASS CO.
LIMITED**

(ESTABLISHED 1828)

BARNSELY - - ENGLAND

All kinds of
thoughtful
display



Manufacturers!

YOUR GOODS
DISPLAYED & SOLD
TO BEST ADVANTAGE

NEW PATENT
"STAND-SHOWCARD"

In one piece
Self-fixing
Packs flat

Over 1,000,000 in use



*The SHOWCARD
SPECIALISTS*

27 Goswell Rd. London. E.C.1.
Phone: Clerkenwell 4283

*Let us design
and quote you*

BRITISH THROUGHOUT

Mills:
Bridge Hall Mills
Bury,
Lancashire

**Air Proof
Dust Proof
Grease Proof**

"DIOPHANE"

(REGD. TRADE MARK)

**TRANSPARENT
WRAPPING
PAPER**

**Diophane
for
Dainty
Display**

The most distinctive
Transparent
wrapping material.

All goods look their best through Diophane

Write for Samples and Prices

TRANSPARENT PAPER LTD.
SALES OFFICE: 110 CANNON STREET, LONDON, E.C.4
Telephone: Mansion House 8508. Telegrams: Transpaper, Cannon, London

Wheatrex

THE FOOD WITH A
WONDERFUL REPUTATION



for Weaning!

"Wheatrex" is an ideal milk modifier which in principle encourages the development of the digestive organs by introducing a foretaste of starch in a soluble and easily assimilable form.

"Wheatrex" carries on where your Baby Food sales normally cease, and thus presents the opportunity of a far larger sales field than can be the case with any other type of Infants' Food. It is used personally and in practice by Doctors and Nurses, and is recommended by Welfare Centres.

STOCKED BY THE PRINCIPAL WHOLESALE HOUSES

P. A. T. A.

Geo. King & Co. Ltd.

ALBION FOOD MILLS, SYCAMORE ST.
LONDON · E.C.1



Telephone : Reigate 480.

Telegrams : Esswhite, Reigate.

RING REIGATE!

The name REIGATE carries with it a guarantee of

"Quality with Economy" in Essences, Essential Oils, Soluble Oils, Concentrates, Flavourings and Harmless Food-Colours.



LEMON. Lemon Oil, Soluble Lemon Oil, Terpeneless Lemon Oil, Sesquiterpeneless Lemon Oil.

PEPPERMINT. Peppermint Oil, guaranteed pure. R.S.M. (Reigate Standard Mint), English re-distilled and blended.

BLACKCURRANT. Pure Fruit Concentrates of Blackcurrant, Raspberry, Strawberry, Pineapple.

PERFUMERY PRODUCTS. Eugenol: Isoeugenol: Ionone 100%: Citral chemically pure 100%: Geraniol: Hydroxy Citronellal.



HOP. Hop Concentrate, guaranteed pure hops only, in purified and condensed form: 1-lb equals 12-lbs new hops for brewing purposes.

Hop Oil, distilled from finest English hops only; for flavour and bouquet in chilled and filtered beers.

Hop Extract, a true hop product, for non-alcoholic drinks.

NOTE.—All enquiries regarding Hop Products should be addressed to Head Office: 48 Mark Lane, London, E.C.3. Telephone—Royal 1970.

WHITE, TOMKINS & COURAGE LTD
REIGATE
ESTABLISHED 1841

ALWAYS SELL

Special ·890 Liquid Paraffin

THIS
IS THE
BEST



*The best only
will satisfy
your customers*

obtainable only from


A de St. Dalmas & Co. Ltd.
Leicester

Dublin
Middle Abbey St.

London
Gt. Sutton St

Leeds
Queen St.

Bradford
1252 Leeds Rd



**SUPER
QUALITY**

**ASK US
TO
QUOTE
FOR**

**GLAUBER
SALTS B.P.**

**EPSOM
SALTS B.P.**

**Special types of crystals matched
and any degree of exsiccation to
order.**

PACKED FOR HOME OR EXPORT

**HARRIS, HART
& CO. LTD.**

**MOSS HOUSE CHEMICAL WORKS
BLACKLEY, MANCHESTER**

Telegrams :
"Harp," Blackley, M/c.

Telephone :
Cheetham Hill 2853



**LET US
QUOTE
YOU FOR
BETTER
BRITISH
BOTTLES**

For eighty years or so we have been making bottles of every description, so we can claim to know something of Drug Trade Requirements.

Hand or machine made bottles of every type—sturdy and accurate and well finished—we can supply whatever you need.

Bottles of first class quality at highly competitive prices. It will pay you to ask us to quote for your next order.

ESTABLISHED 1851

**FREDERICK
HAMPSON**

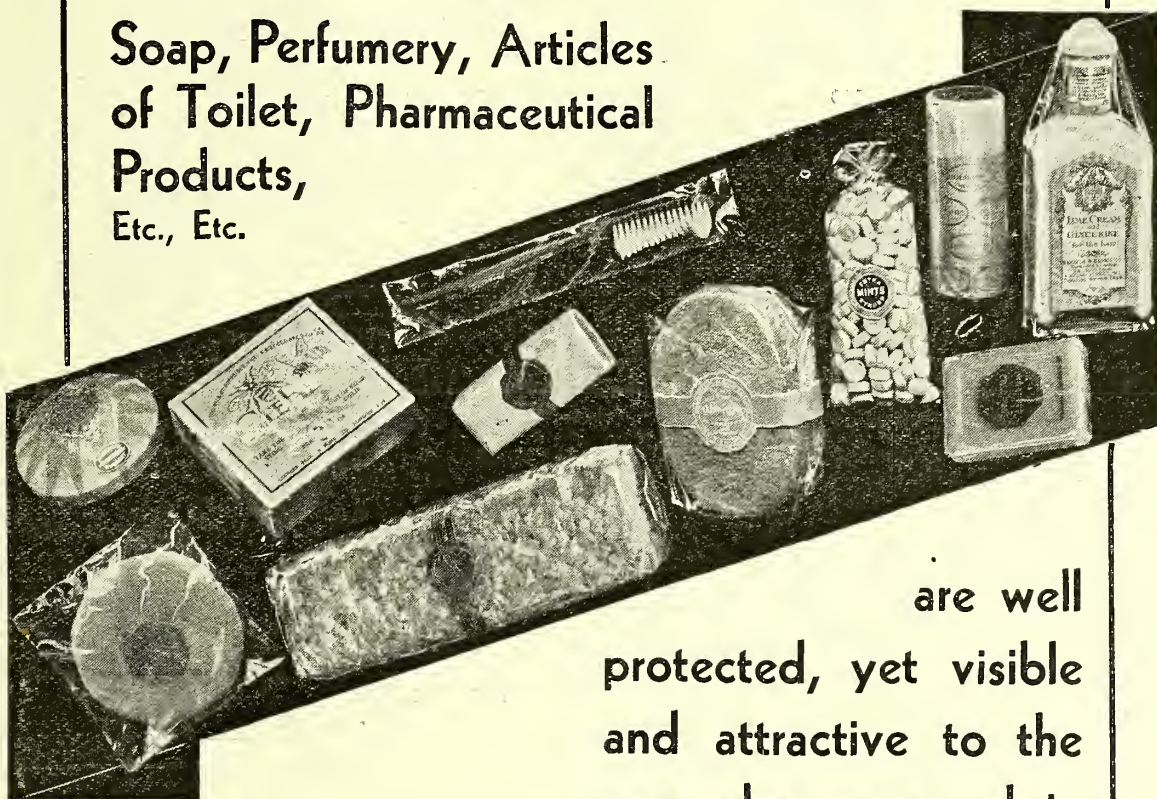
PERSEVERANCE GLASS WORKS

SALFORD

Telephone :
Trafford Park 0814/5

Telegrams :
"Attention" Salford.

Soap, Perfumery, Articles
of Toilet, Pharmaceutical
Products,
Etc., Etc.



are well
protected, yet visible
and attractive to the
eye when wrapped in

Cellophane

THE ORIGINAL TRANSPARENT WRAPPING MATERIAL REGD.

100% Transparent, Strong, Flexible,
Insoluble in water, grease and oil-
proof, dust and air-proof.

The Cellophane Company, Ltd.
6-9 Bird Street
London, W.I.

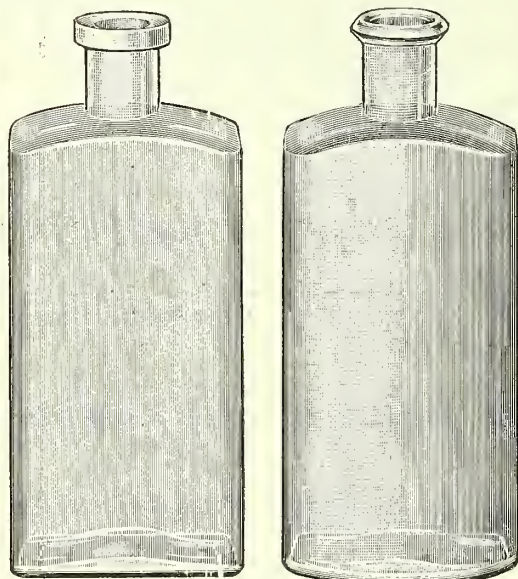
Beatson, Clark & Co.

LIMITED

Chemical & Medical Glass Manufacturers

ROTHERHAM, YORKS

*The Chemists who are doing
the business are the Chemists
who turn the work out well.*



Round Cornered Flat

Oval Fronted Flat

*There is no better help than
a smoothly finished, bright,
attractive bottle.*

TRY THE NO. 2 WHITE QUALITY
REASONABLE IN PRICE
SATISFACTORY in FINISH

Telegrams : BEATSON, ROTHERHAM. Phone : No. 88, ROTHERHAM.

ESTABLISHED 1751

MACHINES

For Filling Collapsible Tubes - £7 10 0

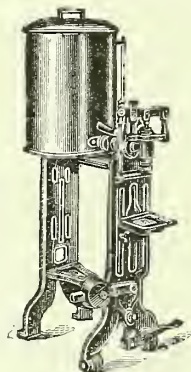
For Folding and Closing - - £5 10 0

"EXPRESS" Bottle and
Can Filling Machines."EXACT" Measurement
Machine for filling
Containers of the same
weight."ACME" Filling Machines
for shallow tins.Chemists' Filling Funnels
with control valve.

"RAPID" Filling Funnels.

Filtering Funnels.

Asbestos Filters.

"EXPRESS"
Filling Machine

Lists Free.

JOHN P. JACKSON & CO., LTD.

Engineers and Coppermiths (Dept. C.D.)

18 EARLE STREET and 12-16 RIGBY STREET

LIVERPOOL**MEDICALS**

BUY YOUR
GLASS BOTTLES

FROM

Wm. HANSON & SONS Ltd.

(MANUFACTURERS)

AND BE SURE OF

GOOD QUALITY at LOW PRICES

ROSEGROVE, BURNLEY

Phone : 3307.

VARNISH STAINS ETC.

PANELS

AMMONIAS

**Medical, Surgical and
Scientific.**

Wholesale and Export only.
Inquiries invited.

IF YOU BUY
ABROAD—
WE BOTH
LOSE MONEY

**NIPPLE
SHIELDS,
IRRIGATORS,**

Eye and Nasal Douches,
Syringes and Surgical
Glass Instruments.

POULTEN, SELFE & Co.

Harley Street, Bow Road, London, E.3. 'Phone: East 3334

GLASSWARE

BUY

BRITISH

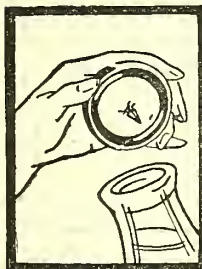
*are better than ever.***6 and 8 oz.**N.H.I. 5^d. per gr.Ordinary 8^{3d}. „Fine 1/1¹/₂ „

Finest 1/8 „

10 gross carriage paid.

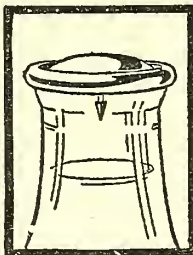
20 gross - - less 5%.

Less 5% cash with order.

*Write for full Price List and Size Gauge***N. W. Mitchell & Snow, Ltd.***"The Cork Firm."***Limehouse, London, E. 14.****"PRESTOP"****Milk COVER & Cardboard disc REMOVER****6^d.**

FITS ALL SIZES.

Manufacturers:

**T. WEBSTER
& CO., LTD.**Diamine House,
Middle Lane,
Hornsey, London, N.8**GLASS BOTTLES**

WRITE TO

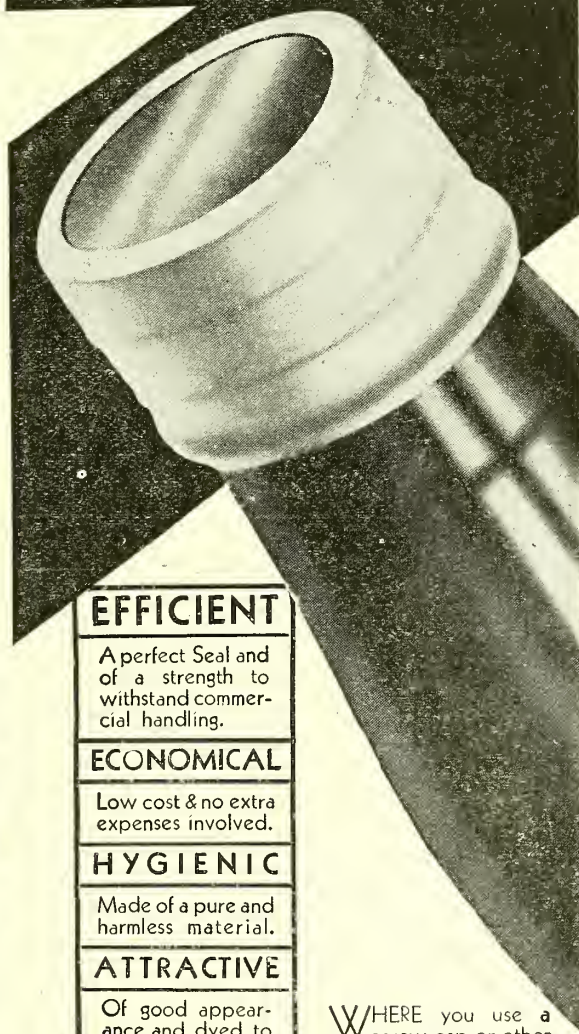
FRED^K. YOULDON

(formerly Proprietor of E. Youldon. Established 1840)

68 Basinghall Street, London, E.C.2

Phone: Metropolitan 4929.

Telegrams: "Youldon, Ave, London."

VISKRINGS**THE NEW BOTTLE SEAL****EFFICIENT**A perfect Seal and
of a strength to
withstand commer-
cial handling.**ECONOMICAL**Low cost & no extra
expenses involved.**HYGIENIC**Made of a pure and
harmless material.**ATTRACTIVE**Of good appear-
ance and dyed to
suit your pack,
and can be printed
if desired.**VISKRINGS are****BRITISH**

WHERE you use a screw cap or other form of closure that can be easily opened and used again, your customers want assurance that the contents are intact. You must, therefore, safeguard the public and your own Product, and the "VISKRING" is the British and best way of doing this

VISCOSE DEVELOPMENT CO., LTD.,
Woldham Road, BROMLEY, Kent.Telephone:
Ravensbourne 4561.Telegrams:
"Viscose, Bromley"



**WE
OFFER
a bottle
capping**

**GIVING THE FOLLOWING
ADVANTAGES:—**
*Speed of operation—
 Perfection of finish—
 Minimum waste.*

**IN STANDARD COLOURS:
 BLACK, RED, WHITE OR BLUE**
Special colours and shades to order.

PRICE :
 12/- to 15/- per gallon
 according to quantity.

*May we give you the pleasure of testing it?
 Write for sample C.S.1 to*

**DOPE DEPARTMENT,
 British Celanese Limited,
 Celanese House,
 Hanover Sq., London, W.1**

253

**SCOTLAND
AND IRELAND** } **DAVID L. VEITCH**
 40, ST. ENOCH SQUARE
 GLASGOW, C.I.
 Tel: Central 3591.

MIDLANDS: **W. A. FOWELL**
 RUGELEY, STAFFS
 Tel: Rugeley 76.

Corks & Stoppers *All progressive business firms are keen buyers. Money saved in buying is extra capital. Nobody to-day can afford to buy other than in the best market.*

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DOMINION BLDGS.
 28, BRUNSWICK ST.
 Tel: Central 1135.

MANCHESTER:
 42, JOHN DALTON ST.
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DRY. SELF-FIXING. ALL SIZES.

Finest Quality and Appearance.

Bottle Caps

Enquiries Invited. Samples Submitted.

T. C. Bussell 47 MARK LANE
 LONDON, E.C.3.

Phone: Royal 8327.

WAGNER'S DRY BOTTLE CAPS
 BEST IN QUALITY & APPEARANCE



Self-Fixing

R.V. WAGNER
 33, Brooke St., London, E.C.1.
 Tel. No: Holborn 5090

RAPID DELIVERY



CHEAP TRANSPORT

Here's a carrier that really CARRIES! Different from an ordinary bicycle with a basket attached, it is specially built to carry larger loads with safety, providing that cheap, efficient delivery on which every successful chemist's business depends.

The unique design with the small front wheel allows an exceptionally deep basket and keeps the weight low, ensuring easy steering, stability in traffic and safety from skids. The strong, instantly operated stand is another exclusive feature which helps to speed up delivery. Cut transport costs and increase your business with the

RALEIGH

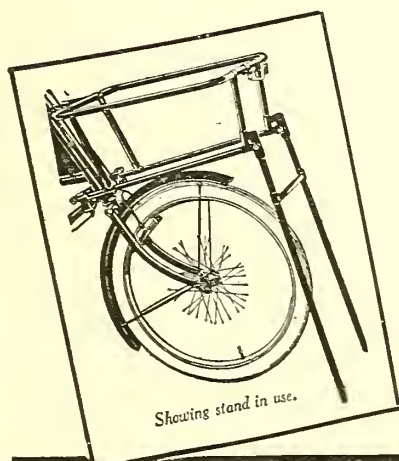
LOW GRAVITY CARRIER CYCLE

The only carrier cycle in the world built entirely of steel, and guaranteed for ever, its great strength is proof against the most irresponsible handling, making the Raleigh by far the really cheapest carrier in the end.

£9. 10s. or by easy weekly or monthly payments.

Send for details and address of nearest agent

THE RALEIGH CYCLE CO., LD., NOTTINGHAM



SPEEDY & RELIABLE!
Avoid waste with—

**The
"LAUDER"
BOTTLE FILLING MACHINE**

(For liquids or semi-liquids)

Made in capacities of 40, 60
80, & 100 fl. oz.

Prices with one detachable nozzle
(either $\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", or $\frac{5}{8}$ ")

Extra Nozzles 16 each.

Heavy Charcoal Tinplate - 32 6

Tinned Copper - - - 42 6

Stainless Steel - - - 46 -

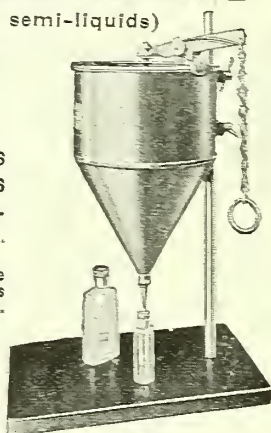
Nett: Carriage Paid: F.O.B. 5% extra.

Without Adjustable Stand: Tinplate
13 6, Tinned Copper 25 -, Stainless
Steel 28 6, post free (foreign 3 6 extra).

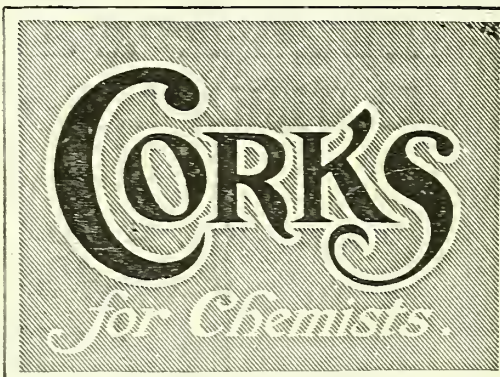
Sole Manufacturer:

L. T. LAUDER

7 EXMOUTH ST., LEEDS



A "**£**abour **S**aving **D**evice!"



Send us your Enquiries
and compare our prices.

Wholesale and Export.

C. OLLEY & SONS, LTD.

Established 1844.

Camperdown St. and Gt. Alie St., London, E.1

Tel. No.: Royal 2363. Tel. Ad: "Circumference, Ald, London."

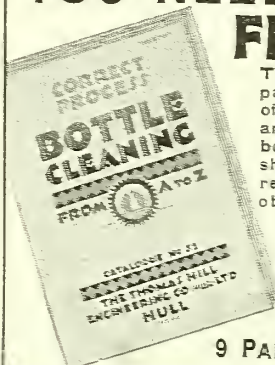
METALLIC CAPSULES

FOR ALL KINDS OF BOTTLES AND JARS.

The Tonkin Metallic Capsule Co.

Proprietors: C. Olley & Sons, Ltd.

**YOU NEED THIS BIG
FREE BOOK**



The 80 pages of this big book are
packed with details and pictures
of every type of modern machine
and appliance for the up-to-date
bottling plant. Every bottler
should keep a copy in his office for
ready reference—and you may
obtain your book free and post
free by applying to the

THOMAS HILL

ENGINEERING CO., HULL LTD.

*Makers of Correct Process
Bottle-Cleaning Equipment*

9 PARK LANE, STEPNEY, HULL

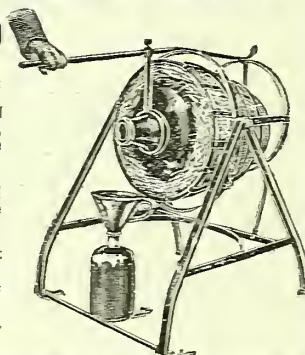
**CARBOY STAND
AND TILTER.**

For drawing off small
quantities of acids, etc.,
from Carboys, with ease
and safety.

The Carboy can be tipped
to any position with one
hand.

**R. & H. LEIGH & SONS,
LIMITED.**

Carboy Hammer Manufacturers.
BOLTON.



**INVALUABLE TO THE PHARMACEUTICAL INDUSTRY
SELF-COUNTING & FILLING MACHINES**

FOR PILLS, TABLETS, ETC.

OUTPUT up to 2,000 PILLS, Etc. PER MINUTE

CALL and SEE A MACHINE DEMONSTRATED

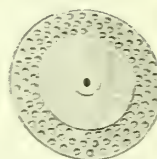
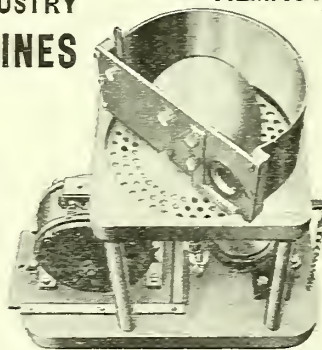
ADJUSTABLE MEASURING SCOOPS

FOR RAPID HAND-FILLING OF POWDERS

NECESSARY FOR ALL PROGRESSIVE
MANUFACTURERS

ALBERT H. JACOBS

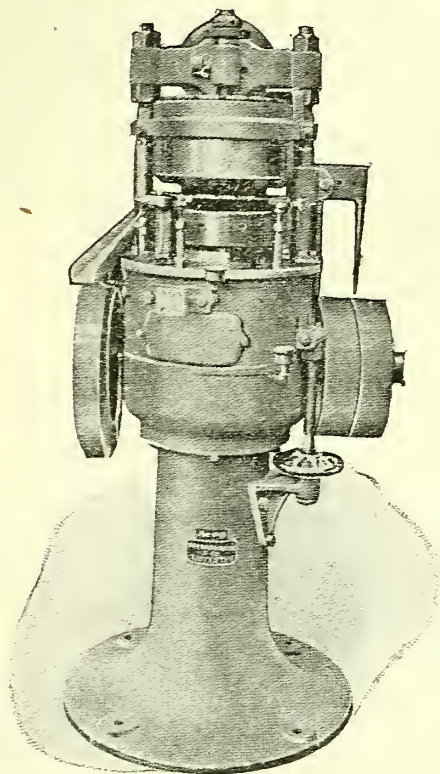
157 FARRINGTON ROAD, LONDON E.C.1.



ALMAUTOR 2

S.W. WILKINSON & Co.

CHEMICAL ENGINEERS
Western Road, LEICESTER.



WILKINSON'S Super Speedy OINTMENT MILL

Our Original Speedy Mill proved a great success, about 300 having been sold. This new type is the result of twenty years' experience with the original Mill, and its improvements are so great that many of the users are scrapping the old Mills and putting in the new Super Speedy, with very satisfactory results. Allowance is made for the old Mill in part exchange for the new type.

WILKINSON'S ROTARY TABLET MACHINES

Now made in 4 sizes.

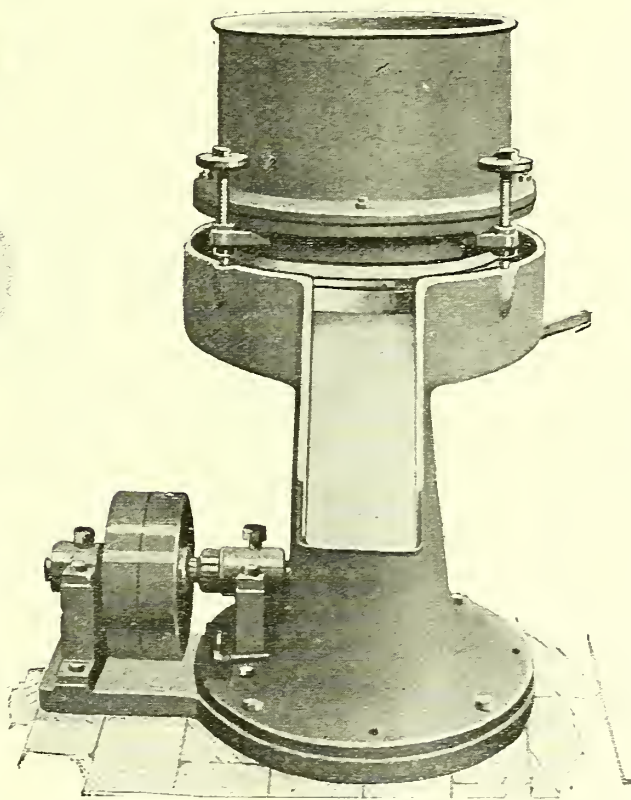
12 Punch Ordinary, $\frac{3}{8}$ " to $\frac{7}{8}$ " diam.
Output 300 per min.

20 Punch Ordinary, $\frac{1}{4}$ " to $\frac{1}{2}$ " diam.
Output 500 per min.

12 Punch Heavy for Thick Tablets
and blocks. 1" diam.
Output 250 per min.

18 Punch Heavy ditto.
Output 400 per min.

*Single Punch Machines in 5 sizes $\frac{1}{4}$ "
to 3" diam. also Lozenges and Bath
Salt Tablets.*



COPPER PANS, STILLs,
CONDENSERS, Etc., Etc.

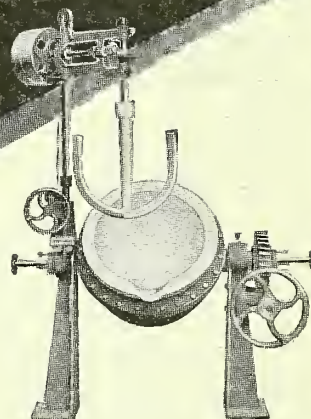


**Acid-Proof
Autoclaves**

**Acid-Eggs
Jacketed Pans**

These are only a few of the
various Vessels manufactured

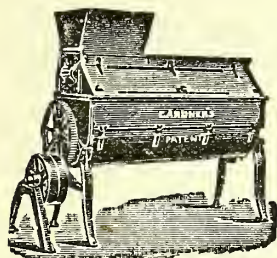
MAY WE HAVE THE
PLEASURE OF
SENDING YOU A
SAMPLE DISH FOR
TESTING PURPOSES?



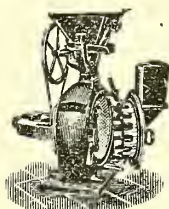
Sole Agents for the United Kingdom: H. SLOOG, 45 Gt. MARLBOROUGH ST., LONDON, W.1.

Phone: REGENT 2460.

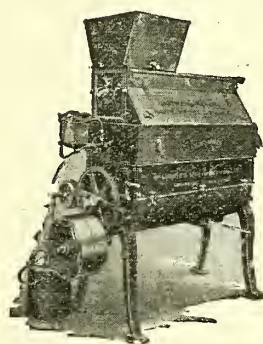
GARDNER'S PATENTS



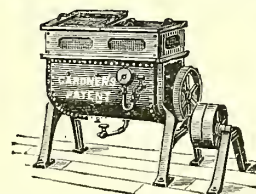
*Combined
"Rapid"
Grinder and
Sifter for Drugs,
Chemicals,
Leaves, Roots,
etc.*



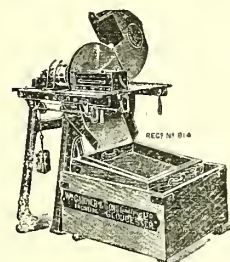
*Gardner's
Patent "Rapid"
Sifter and Mixer
for all kinds of
Dry Powders.*



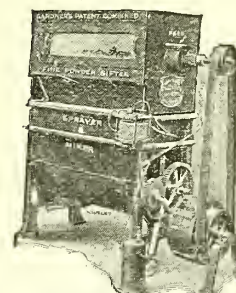
*Gardner's
Patent "Rapid"
Sifter, Mixer and
Sprayer for
Adding Essences,
Perfumes, etc.,
to Powders.*



*Gardner's Patent
"Rapid" Dryers for
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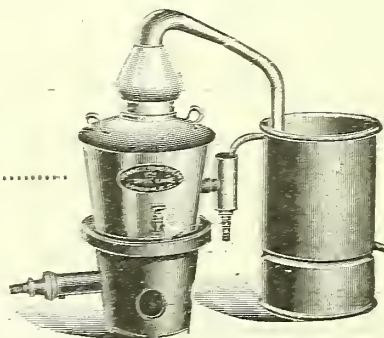
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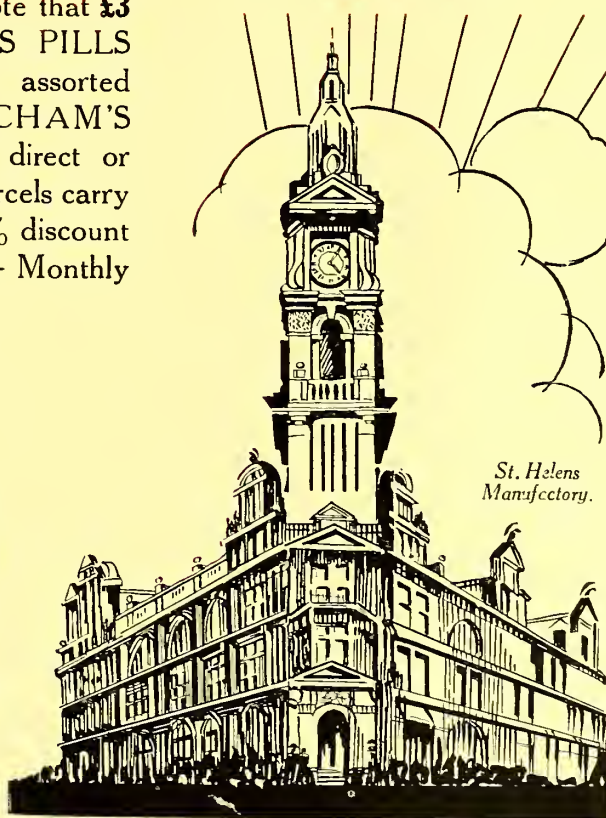
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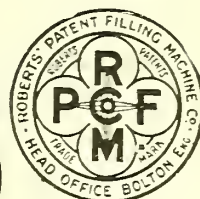
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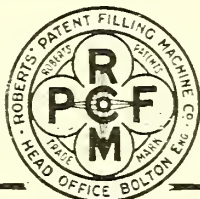
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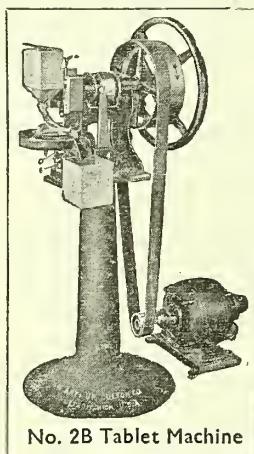
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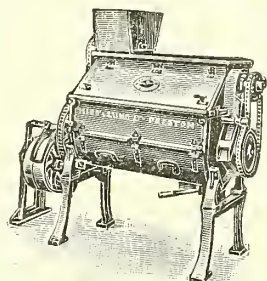
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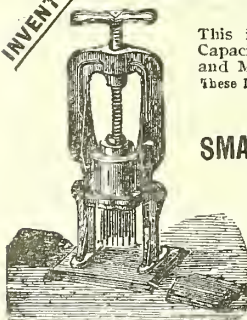
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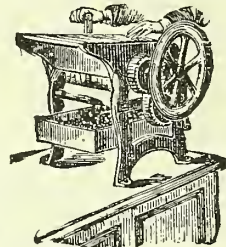
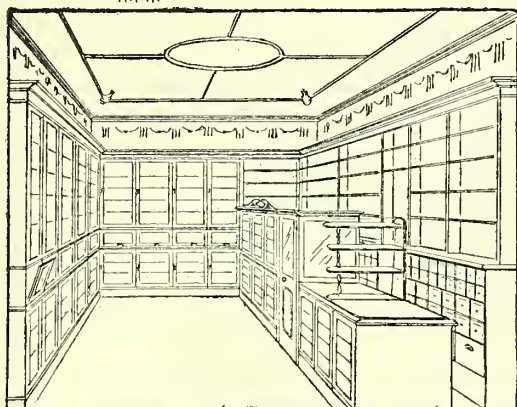


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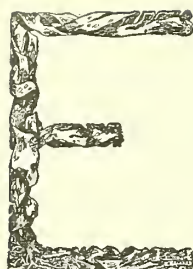
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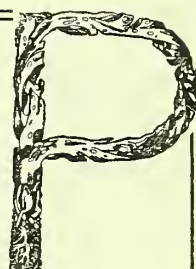
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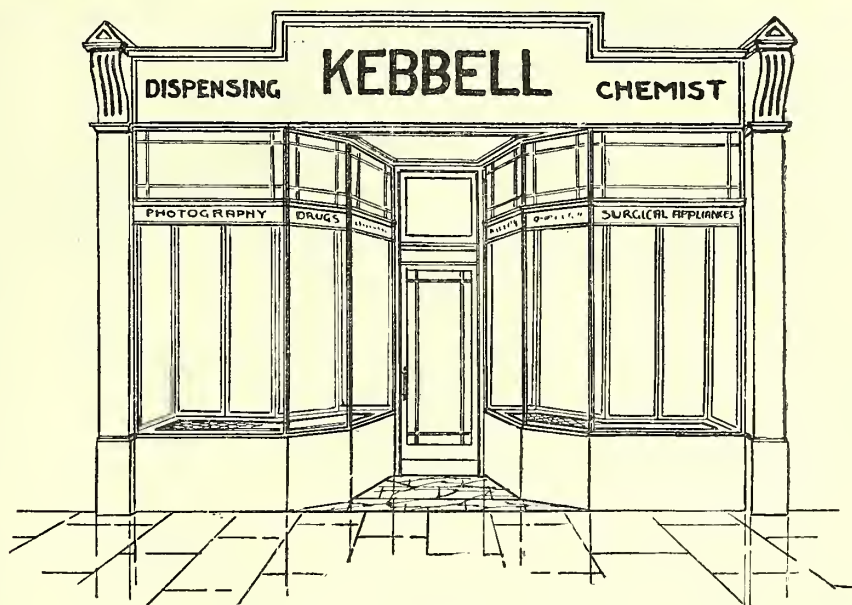
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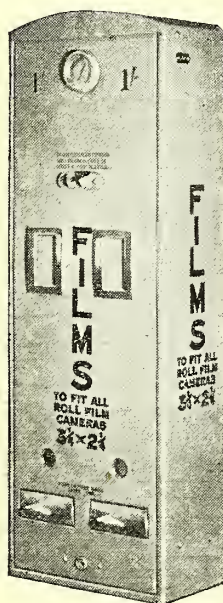
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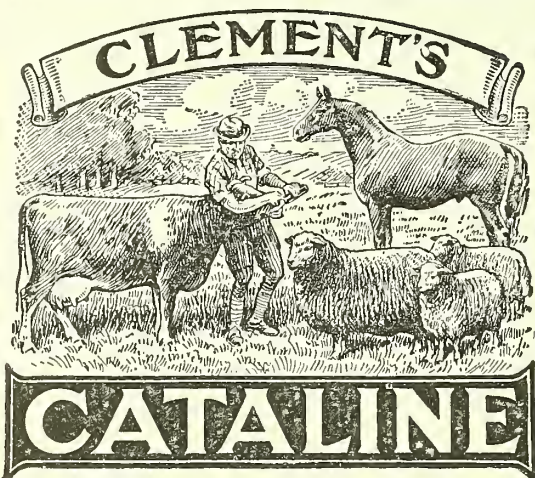


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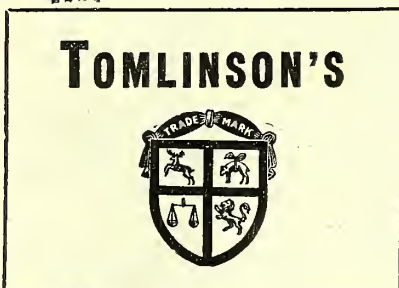
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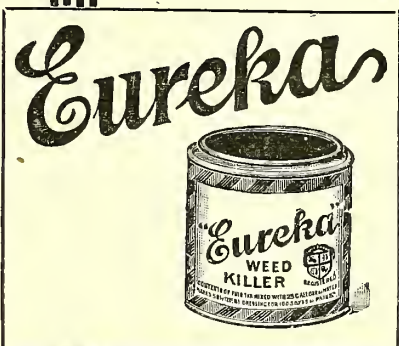
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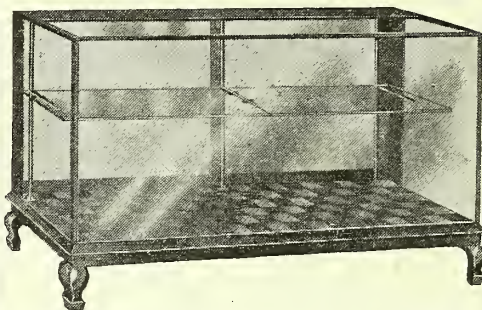
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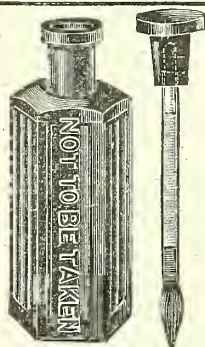
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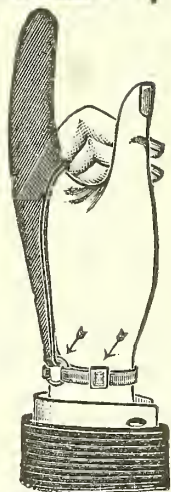
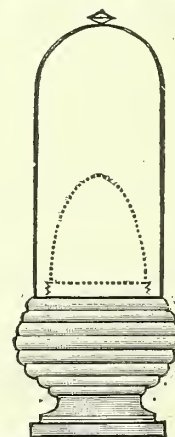
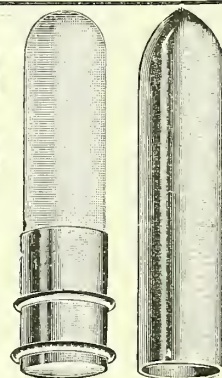
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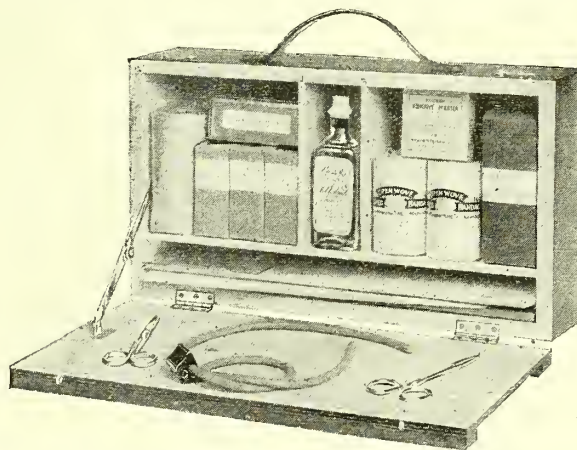
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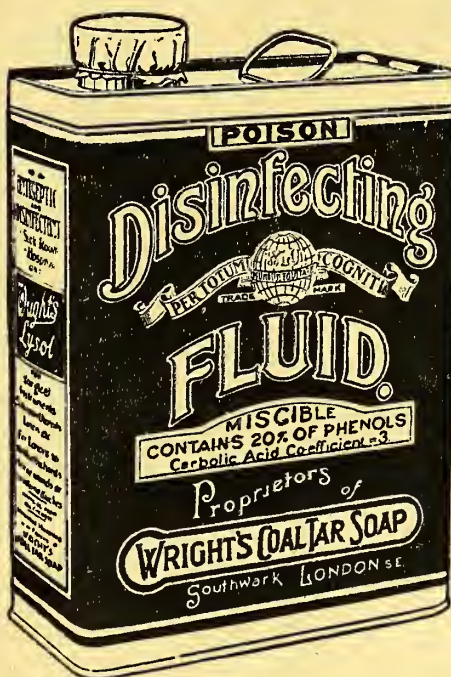
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THE CHEMIST AND DRUGGIST SUPPLEMENT

28 ESSEX ST.
LONDON, W.C.2

JUNE 27, 1931

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3.—STAMFORD HILL (Near).—Good middle-class Business, with Optical connection; returns £2,100 last year, plus £350 from Optics; net profit £750; double-fronted shop; stock and fixtures worth about £800; rent and rates £90; long lease; price £1,600, or valuation terms entertained.

4.—ELEPHANT AND CASTLE (Near).—General Retail and Dispensing Business, with N.H.I. and Kodak Agency, situate in busy main road; returns approximately £5,000 per annum, of which about £800 is from N.H.I.; large double-fronted shop, very well fitted and fully stocked; long lease at reasonable rental; further details on application.

5.—CROYDON (Near).—Old-established Family Retail Business, with Kodak Agency and Panel connection; returns slightly over £1,700 per annum; gross profit £668; large corner shop; well stocked; rent £80 per annum; sub-let house at £1 17s. 6d. weekly; long lease; offers invited.

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8.—KENT (Market Town).—Old-established Retail and Dispensing Business, with Kodak Agency; returns £2,050; net profit £502; lock-up pharmacy; estimated value of stock and fittings about £1,000; long lease at rental of £85 per annum; terms £800 for lease and goodwill, plus valuation of stock and fittings.

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11.—CLIFTON.—Good-class Dispensing Business, with scope for Photographic; returns about £1,300 per annum; net profit about £400; well-fitted corner shop in residential area; good stock; large house; price of business about £800; property must also be purchased.

12.—BOURNEMOUTH.—Good-class Retail Business, with Kodak Agency; returns 1930 approached £1,400, with scope for increase under energetic management; very good modern house; stock worth between £300 and £400, and fixtures about £200; price, to include business and property, £2,200; no doubt a lease would be granted if required.

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14.—ESSEX (Pleasant Town).—General Retail and Dispensing, with Kodak Agency; returns at the rate of £1,200 per annum; double-fronted shop; large house; rent £33 per annum; stock and fixtures worth £650; price asked £900.

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Apply W. R. Bell, Incorporated Accountant, 6 Park Square,
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LONDON, S.E.—For disposal, Drug Store and Lending Library
containing 900 volumes; fine opening for qualified Chemist;
N.H.I., Optics or Dentistry; rent £65; lease, with option; good
saleable stock, about £180, and well fitted; good reason for
disposal; price £450, all at. McDonald, 82 East Dulwich
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LONDON, N.—Good-class Family Retail Business, with Kodak
Agency; returns average over £1,300 per annum; vendor
owns the property and will grant 21 years' lease; double-fronted
shop and 8-roomed house with side entrance; price £1,000.
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LONDON, N. (main road position).—Old-established, profitable
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MATLOCK (near).—Exclusive offer (death cause of sale).
Sound, genuine, old-established Country Grocer-Chemist's,
with accumulator-charging plant, petrol pump, etc.; returns
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in busy main road; good living accommodation; no opposition;
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S. DEVON (growing seaside resort).—Pharmacy and Photo-
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£1,225 increasing; well-fitted shop; glass arcade; excellent
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WARWICKSHIRE.—Sound, good-class Retail, Dispensing and
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average annual net profit last 3 years £546 (income tax declara-
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FOR disposal, owing to increasing age and failing strength,
a first-class Herbalist's Business in a thickly populated
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LIGHT Cash Retail Business, with N.H.I. Dispensing, Photo-
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CHELTEMHAM.—Qualified Manager, used to brisk Retail business; outdoor. Please send full details of experience, salary required, in first letter. Harold Miller, 389 High Street, Cheltenham.

CRICKLEWOOD, N.W..—Qualified Branch Manager wanted now or in one month's time (age not under 26); undeniable references essential; must be a good Counterman and Window-dresser, Photographic knowledge; good house attached. Apply, giving age, experience, height, references, and salary required, photo if possible, to T. Bellamy, 2 Tindal Square, Chelmsford.

HAMPSTEAD.—Young, qualified gentleman required of good experience and address for high-class business; unfurnished rooms provided. Apply, with full particulars, by letter only, Grant, 567 Finchley Road, N.W.3.

LIVERPOOL.—Qualified Manager for new Branch in working-class district; keen and good Window-dresser; Photographic knowledge; one able to invest preferred, but not essential. Full particulars experience, height, age, references and salary required, 173/33, Office of this Paper.

LONDON, S.E..—Young Assistant wanted for progressive middle-class business; must be smart Salesman and good Window-dresser; Dispensing knowledge an advantage. Apply, stating experience, age, height; wages to commence £2 per week. 174/32, Office of this Paper.

LOCUM, qualified, wanted from July 5 for four or six weeks. Call personally, James Dawe & Co., 75 Kentish Town Road, N.W.1. Phone No.: Gulliver 3122.

ST. MARY'S HOSPITAL, W.2.

WANTED, a Junior Assistant Dispenser (male), not over 30; Minor qualifications; salary £200 per annum, with luncheon and tea; hours 9 to 5, but every fifth week 9 to 7; Hospital experience desirable. Applications, stating age and experience, accompanied by not more than three testimonials, to be sent to the Dispenser.

W.R. YORKSHIRE.—Assistant, qualified, about 30, for an indefinite period, but with possibility of a permanency. Experience, references, and salary required to 174/30, Office of this Paper.

A VACANCY occurs for a thoroughly capable and experienced Assistant with Optical qualification (J.C.Q.O.) in first-class business in Surrey. Applicants must be of good appearance and address, and have had first-class experience; age not under 30. State full particulars regarding age, references and salary required. 174/3, Office of this Paper.

EARLY JULY.—Competent Assistant in good-class, brisk Retail and Dispensing, with Photographics; must be good Counterman, whose references will bear strict investigation; permanency to suitable applicant. Kindly furnish (in first letter) details of experience, age, height, salary required, and when free. D. T. Evans, Ltd., Chemists and Opticians, Margate.

JUNIOR (male) wanted from July 6 for about two months in seaside town; must have good knowledge Photography and well used to quick Counter trade. Write, with full particulars, Holman, Ham & Co., Ltd., Chemists, Lyme Regis.

LOCUM wanted, July 13—Saturday, 25th; young; qualified. Apply, with references, stating salary required. Thos. Edmondson, Ltd., Penrith, Cumberland.

LOCUM, qualified, wanted from July 10 to July 17 inclusive. Send particulars to "Chemist," London, S.E.1, c/o P.C.B. 54/5, Office of this Paper.

LOCUM.—Qualified lady required from evening July 12 to July 25. Terms, Freeman, Chemist, Chatham, Kent.

MANAGER (qualified), married man, for Manchester growing suburban business; smart Salesman and good Window-dresser essential; excellent prospects. State age, experience, and when free to 174/21, Office of this Paper.

PART-TIME qualified man wanted; full time later if satisfactory; would suit elderly man. Write or call, 221 High Street, Tooting, S.W.17.

QUALIFIED Assistant to manage small branch; about 30; must be quick and accurate Dispenser and thoroughly reliable. State age, experience and salary expected (outdoors) to "Herts," 173/36, Office of this Paper.

QUALIFIED Relief Manager, keen Salesman, capable of managing up-to-date businesses; permanency to good man. Full details of experience, age, and when at liberty to 174/210, Office of this Paper.

PHOTOGRAPHS, TESTIMONIALS, &c.

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) ORIGINAL TESTIMONIALS or VALUABLE PHOTOGRAPHS. As can be readily understood, when an advertiser receives from 60 to 100 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

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QUALIFIED Assistant wanted; East End; must have smart appearance; good prospects; permanency. Send full particulars, salary, etc., to 175/8, Office of this Paper.

WHOLESALE.

IRELAND (Irish Free State and Northern Ireland).—We require a first-class, experienced Representative to sell a well-known line of Cosmetics, Powders, Rouge, Lipsticks and Creams to Chemists, Stores and Hairdressers; only first-class applicants need apply; remuneration, very liberal commission and expenses. 188/661, Office of this Paper.

THE UNITED CHEMISTS' ASSOCIATION, LTD., Cheltenham, require a competent man to take charge of Pharmaceutical Laboratory. Replies, in confidence, stating experience, qualifications, and salary required, to Managing Director, Ucal, Cheltenham.

TO gentlemen having sound connection with Wholesale and Retail Chemists. The M.M.T.P. Co. are widening the scope of their activities (for their popular pack in carton) and offer a profitable proposition to commission Salesmen in centres where not already represented. Write for terms of this daily commodity, with unlimited prospects; give particulars, ground covered, lines carried. The Miss Muffet Toilet Paper Co., 1 Julian Road, West Bridgford, Nottingham.

VELOX Printers (experienced) wanted for Developing and Printing Works; salary 50s. weekly; fare paid if engaged. Apply, Manager, Bathe's Kodak Specialists, 6 Lucius Street, Torquay.

WALES.—Applications are invited from first-class Salesmen only who are able to represent one additional house of repute on a part expenses and commission basis. To save time give the fullest information in your first letter. This will be treated in the strictest confidence. 188/662, Office of this Paper.

WHOLESALE Rubber Sundries House requires Assistant capable of handling routine, correspondence, supervision of orders, and be generally useful; knowledge of Rubber Sundries essential. Reply, with full particulars as to experience, salary required, etc., P.C.B. 54/29, Office of this Paper.

COLONIAL, INDIAN AND FOREIGN.

FRANCE (VICHY).—Wanted immediately for season until end September, tall, qualified and of gentlemanly appearance, knowledge of French an advantage; passage paid out and home. Photos and particulars of experience to Mr. Bramley, Polliet et Cie, Aix-les-Bains (France).

We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents or assistants, or wish to sell their businesses, an Advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

SITUATIONS WANTED.

RETAIL (HOME).

2s. for 18 words or less, 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A.A.—CAPABLE young Assistant available immediately; excellent Dispenser and Salesman. "Advertiser," Holly House, Wotton-under-Edge, Gloucester.

A.A.—ASSISTANT or Locum; unqualified; moderate salary; Dispensing, Counter, Windows, Prescribing, Photography. "Gentian," 16 Brixton Road, S.W.9.

A.A.—CHEMIST recommends his late Assistant, of high integrity, careful Dispenser, capable Counterman, good Window-dresser; Photographic experience; unqualified; 28. Davies, 12 Naylor House, Albion Road, S.W.8.

A QUALIFIED Chemist, 23, seeks responsible post; wide experience all branches; good references; hard worker; at present employed in Scotland; disengaged end of June. 175/27, Office of this Paper.

A LOCUM (R.P.U.) booked except period 29th inst.-July 26. Baynes, 2 Council Houses, Stuntney, Ely, Cambs.

AN experienced, qualified Manager, married, desires change after few years' managership Devon town; 15 years' excellent London experience and undeniable testimonials. "Chemist," 13 Vale Road, Newton Abbot, Devon.

ASSISTANT; unqualified; 21; good experience, references; competent Dispenser, Counter-hand; disengaged until October. "Brom," 15 Ashland Avenue, Wigan.

ASSISTANT (24), unqualified, urgently requires situation; Sheffield or district; low salary. "G.", 30 Rutland Park, Sheffield.

ASSISTANT; unqualified; middle-aged; good experience; last references (18 years); disengaged. Whittaker, 145 Second Avenue, Manor Park, E.

ASSISTANT, unqualified, young and energetic, desires post; 6 years' good experience in Dispensing and Counter; good Salesman. "Advertiser," 18 Clermont Road, Preston Park, Brighton.

ASSISTANT; unqualified; 21; used to middle-class quick Counter and Dispensing; excellent references; free now; local district preferred. L. Holder, 18 Fitzwilliam Road, Clapham, S.W.4.

ASSISTANT or Manager; 25 years' good all-round experience; A single; active; middle-aged; unqualified. "Statim," 228 Lockwood Road, Huddersfield.

ASSISTANT (young lady, 21) desires post; first-class general all-round experience; Liverpool preferred, but not essential; references. 174/22, Office of this Paper.

ASSISTANT, capable, unqualified, desires season job; just completed Minor course; available immediately; excellent references; experienced in all branches. 175/21, Office of this Paper.

CAPABLE, all-round Assistant; competent, active worker; tall; unqualified; 44; disengaged; permanency, Locum. "Urgent," 23 Doughty Street, Holborn, W.C.1.

CHEMIST (Irish qualification) requires engagement in first-class Dispensing and Retail; twelve years with last firm. 173/37, Office of this Paper.

DISPENSER, lady, age 27 years (Hall Certificate, Ambulance and Nursing Certificates), requires position for September or later in Institution, Hospital, Surgery or shop; 10 years' full experience. 175/29, Office of this Paper.

ELDERLY Qualified desires employment with short hours or part-time; country, near London, preferred. Baker, 81 Elgar Road, Reading.

EXPERIENCED Saleswoman, Drugs, Toilet and Perfumery. "Advertiser," 5 Mandeville Road, Enfield Wash, Middlesex.

LOCUM, qualified, trustworthy, satisfactory references, London and Provincial experience, free July 6 to July 11 inclusive, and July 27 to August 22 inclusive. "Chemist," 8 Victoria Street, Taunton.

LOCUM; 22; unqualified; July 6 onwards; 4½ years last situation. S. Davies, 11 Minorca Road, Weybridge, Surrey.

LOCUM, qualified Pharmacist and Optician, has dates vacant in July and August; F.B.O.A., F.S.M.C.; conscientious, thoroughly experienced, reliable. Ellis, c/o Betten, Chemist, Worthing.

LOCUM required, July 20-August 1; excellent references; moderate terms. "Chemist," 48 Upper Tulse Hill, S.W.2.

LOCUM; unqualified; 39; any two weeks, July-August; well up all branches, Prescribing, Photo, etc.; used to quick trade; present situation 6 years as Manager; town, country or seaside. 175/13, Office of this Paper.

LONDON.—M.P.S. (woman), experienced, excellent references, desires permanency; West or North-West preferred. 174/37, Office of this Paper.

M.P.S., F.S.M.C., desires change; managerial personnel; manancy; accustomed organising and large staff control; good Window-dresser; correspond in confidence. 174/29, Office of this Paper.

PHARMACIST, 52, 14 years' first-class experience in all branches of the best type of Retail business, seeks sound managerial position in London; free in one month. 174/14, Office of this Paper.

QUALIFIED Manager, 58, single, disengaged, desires post; London and country experience. "M.P.S.," 70 Grangehill Road, Eltham, S.E.9.

QUALIFIED Manager, London and Provincial experience, open for engagement; free at a month's notice. 174/8, Office of this Paper.

QUALIFIED, 26, single, at present managing in London, desires position as Manager or Assistant; near Liverpool or Birmingham preferred; excellent references and experience. Davies, 456 Katherine Road, E.7.

QUALIFIED, as Manager or responsible position; disengaged; London district preferred. 175/10, Office of this Paper.

QUALIFIED, elderly Locum; experienced; vacant dates, July 6 to August 15; short distance out of town not objected to. "H.," 18 Westmoreland Road, Ayleswater, W.2.

UNQUALIFIED Assistant (20) requires position, July-late September; excellent experience; Dispensing, Salesmanship, Photographic, Toilet, Window-dressing; tall; good appearance. 173/39, Office of this Paper.

UNQUALIFIED desires employment in London Pharmacy (or Wholesale); age 25; speaks and writes Hungarian, French, German, English; 5 years' experience in Swiss and Hungarian Pharmacy. Gellert, c/o Wansbrough, 15 Highbury Crescent, London, N.5.

UNQUALIFIED, 22, tall, Counter, Window-dressing, Photographic, desires post; Essex preferred. "S. B.," 167 Bournemouth Park Road, Southend.

UNQUALIFIED, disengaged, middle-age, 25 years' reference, seeks engagement. Gregory, 24 Clarendon Road, Lewisham, S.E.

UNQUALIFIED, 24 (male), tall; good Window-dresser, capable Dispenser, Photographic, etc.; disengaged. "M.," 21 Abbott's Park Road, Leyton.

WHOLESALE.

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A HIGH-GRADE Representative, with sound Chemists' connection throughout Wales, undeniable sales record and references, invites applications from Wholesalers of repute who require a salesman capable of tackling any proposition where selling ability, personality and determination are needed. 174/40, Office of this Paper.

A YOUNG, able, energetic Representative, with sound Chemists' connection Southern England, desires re-engagement; own car; unimpeachable references. Advertiser, who has a comprehensive knowledge of Drugs, Toilets and Galenicals, invites applications from Wholesale Houses of repute that are prepared to offer salary and commission terms. 173/9, Office of this Paper.

ADVERTISER; disengaged; extensive experience and connection; genuine ability salesmanship, propaganda; 7 years well-known house; salary and expenses. 175/7, Office of this Paper.

ADVERTISER, 29, resident North Yorks, desires appointment as Representative; good range packed goods, specialties, preferred; salary, commission, expenses. 175/24, Office of this Paper.

AT YOUR SERVICE.—Age 51, height 6 ft. 1 in. After representing a well-known Proprietary House for some years am leaving owing to change of policy; my sales this year show an increase of 70 per cent. over the same period last year, and this is a period of undoubted trade depression; am now open to receive offers from first-class firms requiring a first-class Representative or Sales Manager; would consider Partnership with moderate investment in genuine Manufacturing or Wholesale concern showing scope for expansion; would also be interested in really good lines on agency terms; excellent references and record. "Sales," 175/40, Office of this Paper.

ENERGETIC, trustworthy Representative, 12 years' personal connection with Wholesale and Retail Chemists in Northern Ireland, Irish Free State, North Wales, also Lancs, seeks progressive position with good house; salary and expenses; would consider Agencies; fully experienced Chemists' Printing. 174/38, Office of this Paper.

PRACTICAL Manipulator all Toilets, Perfumes, Emulsions, Hair Creams, Lotions, Powders, Brilliantines, Grease Paints, etc., etc., desires post; 15 years' experience reputable firm; young; 35; control labour, introduce new lines, methods packing; moderate salary commence; disengaged. 174/24, Office of this Paper.

MISCELLANEOUS.

10s. for 60 words or less; 1s. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

CHEMISTS' FITTINGS.—We hold an immense stock of Drug Fittings, Dispensing Screens, Glass Fronted Counters, Perfumery Cases, Nests of Drawers, Wall Cases, Silent Salesmen, Upright and Flat Counter Cases, Plate-glass Counters, Cash Tills, Display Stands and Glass Shelves, etc., ready for immediate delivery at competitive prices. Write or call for List. F. MAUND & E. BERG (SHOWCASES), LTD., 175/9 and 556 Old Street, London, E.C.1.

CHEMISTS' MAHOGANY FITTINGS to be cleared at low prices. Drug Runs, 14 ft., 12 ft. and 10 ft. long; Wall Cases, 10 ft., 8 ft. and 5 ft. long; Dispensing Screens, 8 ft., 7 ft., 6 ft., 5 ft. long; bent-front Salesman, 5 ft. 8 in. high, 2 ft. 6 in. wide, three glass shelves; two 4 ft. nests Counter Drawers. Sketches by return. GEORGE COOK, The Working Shopfitter (over 40 years' experience), 27 Macclesfield Street, City Road, E.C.1.

FOR DISPOSAL.—55 gross two-ounce wide-mouthed Amber Bottles in unwashed condition. Apply 187/659, Office of this Paper.

WE HAVE WHAT YOU WANT, that is, good Second-hand Drug Fittings with Shop Rounds, Counters, Wall Cases, Dispensing Screens, Perfume Cases with desks, Label Drawers, Electric Signs, Carboys, Tills, etc., cheap. Write or call, RUTDUCK & CO., 219 Old Street, London, E.C.1.

£90.—COMPLETE SET OF FITTINGS suitable for beginner or branch, comprising:—12 ft. Drug Fitting complete with drawers, lockers and shelving; 6 ft. Wall Showcase; 7 ft. Dispensing Screen with full length plate-glass mirror; 8 ft. glass-fronted Counter and Counter Case; nest of Counter Drawers. Full details from PHILIP JOSEPHS & SONS, LTD., 90/92 St. John Street, Clerkenwell, E.C.1. "Pharmacy Fitters for Over a Century."

NAMES AND ADDRESSES.

When sending advertisements for any of the sections in this Supplement, advertisers—as a guarantee of good faith and not necessarily for publication—should always give their names and addresses. It sometimes occurs that this rule is not followed and delay and disappointment ensues. Strict attention to this detail will be appreciated.

PUBLIC AUCTION

H. E. STANDAGE & CO. LTD.

ALDGATE SALE ROOMS,

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Telephone: Royal 0976. Telegrams: Aucsales, Ald, London

Announce the sale by Auction of the whole of the
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ALL PRACTICALLY UNDAMAGED

All Classes of Goods,

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On View, 10 a.m.—5.0 p.m. previous day and morning
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Price lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box numbers being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

ALL DRUG AND CHEMICAL WORKERS

should join at once

THE NATIONAL UNION OF DRUG & CHEMICAL WORKERS
(Incorporating the National Association of Chemists' Assistants)

BENEFITS: Trade Protection—Legal Aid—Unemployment

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Write for particulars—**ARTHUR J. GILLIAN, Gen. Sec.**
149 NEWINGTON CAUSEWAY, LONDON, S.E.1

CLEAR OUT—your Old or Damaged

Stock of Photo Goods

Why keep them any longer? Turn them into CASH.

I GIVE BEST PRICES for Old Films (damaged, fogged or expired dates); Packet Papers. Cards (any sizes). Old Photo Goods or Cameras. Bromide Papers. Plates (all sizes, all makes). Send any goods in the photo line. I buy all, good or bad. Cash per return. A good price for all Cameras. Send them along.
S. E. HACKETT, 23 July Road, Liverpool

ADVERTISERS would consider the
PURCHASE OF GOODWILL, etc., of any
PATENT MEDICINE or PROPRIETARY
ARTICLE—or ARRANGE for its MANU-
FACTURE and DISTRIBUTION.

State full particulars, 174/209, Office of this Paper.

EXCHANGE COLUMN.

FOR DISPOSAL.

TANK COUNTER CASE for Sale, good condition, length 2 ft. 10 in., height 3 ft., depth 2 ft., two glass shelves, glass doors, fitted for electric light, £4.10s.; London only. Armstrong, 165 Blackstock Road, N.4.

"NATIONAL" Cash Register for disposal, in perfect order; rings up to 19s. 11½d., has "Pay Out" and "No Sale" keys, window showing last sales, and paper roll in machine showing individual sales. Write for particulars, E. E. Jackson, 4 Courcy Road, N.3.

WANTED.

SIGHT TESTING CASE, compact, cheap. "A. R., 72 Abingdon Villas, W.3.

GOWER, Chemists' Bookseller, 41 Voltaire Road, Clapham, wants Pharmaceutical Books, including B.P., Pharmaceutical Formulas, B.P.C., P.J.F., Optical Books, Materia Medica Collections.

PHARMACEUTICAL FORMULAS

(P.F. Vol. 1.)

The tenth edition of this, the most complete pharmaceutical formulary in the English language, comprises (1) selected formulas from the British, United States and several other pharmacopœias; (2) unofficial formulas from hospital pharmacopœias and other sources, British, colonial and foreign; (3) known, admitted and approved remedies (218 pages) taken from previous editions of "Pharmaceutical Formulas"; and from "The Chemist and Druggist" Diaries; (4) concise descriptions of practical methods of manufacture, adapted to the retail shop; (5) an Appendix comprising laws and regulations governing the sale of poisons, the hours of closing, medicine-stamp duty, the use of spirits and many other data—e.g., a solubility table and chart

PRICE 15/- By post 15/9

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THE CHEMIST & DRUGGIST, 28 Essex Street, Strand, London, W.C.2

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54 Foster's Bldgs,
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